EX SITU STABILIZATION
CONSTRUCTION COMPLETION REPORT

SWMU 30/38

FORMER CHEVRON PERTH AMBOY FACILITY
PERTH AMBOY, NEW JERSEY

Prepared for:

Chevron Environmental Management Company
Perth Amboy, New Jersey 08861

Prepared by:

200 Cottontail Lane
Somerset, New Jersey 08873

JUNE 2017
Project No. 450335.37300

D-ID Number: 2017-021-37

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LIST OF ACRONYMS

Acronym	Definition / Description
BaP	Benzo(a)pyrene
bgs	Below ground surface
CAMU	Corrective Action Management Unit
CCR	Construction completion report
CEMC	Chevron Environmental Management Company
CM	Corrective measure
CMI	Corrective measure implementation
CMS	Corrective Measure Study
CQA	Construction quality assurance
CY	Cubic yards
El.	Elevation
EIM	Environmental Information Management
ESS	Ex situ stabilization
HSWA	Hazardous and Solid Waste Amendments
IWP	Implementation work plan
mg/kg	Milligram(s) per kilogram
NGVD	National Geodetic Vertical Datum
NJDEP	New Jersey Department of Environmental Protection
PDI	Pre-design investigation
RCRA	Resource Conservation Recovery Act
RFI	RCRA Facility Investigation
SWMU	Solid Waste Management Unit
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey

1.0 INTRODUCTION

This construction completion report (CCR) describes the ex situ stabilization (ESS) corrective measure (CM) performed in Solid Waste Management Units 30 and 38 (SWMU 30/38) at the Chevron Environmental Management Company's (Chevron's) former Perth Amboy Facility (the Facility). The Facility is located at 1200 State Street in Perth Amboy, New Jersey, as shown on Figure 1. SWMU 30/38 contained soils impacted by benzo(a)pyrene (BaP). The implementation work plan (IWP) (Chevron 2015) for ESS in SWMU 30/38 was submitted to the New Jersey Department of Environmental Protection (NJDEP) in September 2015. In the IWP, Chevron proposed remediation through excavation of impacted soils with subsequent disposal in the on-site Corrective Action Management Unit (CAMU). NJDEP approved the SWMU 30/38 ESS IWP in a letter dated November 4, 2015 (see Appendix A for a copy of the approval).

1.1 SWMU Description and Regulatory Background

SWMU 30/38 is in the northwest portion of the Facility's Main Yard within the 90-Day Storage Area, as shown on Figures 2 and 3. SWMU 30/38 is bounded to the west by the property boundary, to the north by Barber Street, to the east by Barber Street and CAMU Cell 1, and to the south by Penn Avenue, as shown on Figure 3. The individual units are described below.

- SWMU 30 is an open area used for the temporary (less than 90 days) storage of hazardous and potentially hazardous waste. SWMU 30 was identified as a SWMU based on potential releases that might have included small volume leaks and spills from the 55-gallon drums and dumpsters stored in this area.
- SWMU 38 was identified as an open earthen impoundment based on 1947 and 1954 aerial photographs. The type of waste SWMU 38 may have contained is unknown. The original unit was roughly elliptical in shape, measuring approximately 75 feet by 250 feet. However, during the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI), the area was expanded to a 125-foot by 250-foot rectangle to account for irregularities in the shape of the unit (Chevron 1997, 2003, and 2008b).

Chevron received a RCRA Hazardous and Solid Waste Amendments (HSWA) Permit for the Facility on June 1, 1994. After the permit was issued, Chevron performed an RFI and submitted a Corrective Measures Study (CMS) (2008) to the United States Environmental Protection Agency (USEPA) and the NJDEP. The USEPA issued a RCRA HSWA Permit Renewal (USEPA ID No. NJD081982902) for the Facility, with an effective date of September 3, 2013. The 2013 HSWA Permit identified ESS and disposal in the on-site CAMU as the CM to be implemented for SWMU 38 soils with concentrations of BaP greater than 10 milligrams per kilogram (mg/kg). In SWMU 30, the 2013 HSWA Permit Renewal required filing a deed notice to address soils with BaP <10 mg/kg and >0.66 mg/kg.

In 2015, a Pre-Design Investigation (PDI) was performed to define the extent of the BaP-impacted soil within SWMU 30/38. As discussed in Chevron's SWMU 30/38 ESS IWP, a discrepancy was identified in soil boring locations presented in the 1st Phase RFI Report (Chevron 1997) and the CMS Report (Chevron 2008a). The 2015 PDI addressed this discrepancy by evaluating BaP concentrations in soil within SWMU 30/38. The SWMU 30/38 environmental setting, regional geology, site-specific hydrogeology, previous investigations, and 2015 PDI results are summarized in the SWMU 30/38 ESS IWP (Chevron 2015). The SWMU 30/38 ESS IWP also describes the ESS CM to be implemented in the SWMU 30/38 area.

1.2 Relevant Documents

The following documents were prepared for the remedial design and implementation of the SWMU 30/38 ESS CM:

- The ESS IWP (Chevron 2015) – Chevron submitted this work plan to the NJDEP to detail the proposed scope of work related to the implementation of the ESS CM for SWMU 30 and SWMU 38.
- NJDEP letter dated November 4, 2015 – this letter approved Chevron's September 2015 ESS IWP for SWMU 30/38 (see Appendix A for a copy of the letter).

1.3 Roles and Responsibilities

The following is a list of the roles and responsibilities for the entities involved in the SWMU 30/38 ESS CM design and implementation:

- Chevron – Chevron is the former owner of the Facility where SWMU 30/38 is located. Chevron was responsible for the implementation of the ESS CM in SWMU 30/38.
- Parsons Environment and Infrastructure, Inc. (Parsons) – As the remedial design engineer, Parsons was responsible for performing the following remedial action activities for SWMU 30/38: design of the ESS CM, construction quality assurance (CQA) during ESS CM implementation (CMI), and collection of environmental samples.
- Entact, LLC (Entact) – As the remedial construction contractor, Entact was responsible for performing the following remedial action activities in accordance with the ESS IWP for SWMU 30/38: surveying, heavy equipment operation, excavation and stockpiling of soil, transportation of soil, backfill of excavation, and general management of soil and groundwater.

1.4 Report Organization

Following this introduction, the CCR is organized as follows:

- Section 2: Previous Investigation Findings – summarizes the findings of previous investigations as described in the SWMU 30/38 ESS IWP.

- Section 3: ESS Corrective Measure – summarizes the remedial action activities implemented in SWMU 30/38.
- Section 4: References – provides references for documents cited in the CCR.

2.0 PREVIOUS INVESTIGATION FINDINGS

The HSWA Permit identified SWMU 38 as an area of BaP-impacted soil requiring remediation with the implementation of the ESS CM. A PDI was proposed to define the extent of BaP-impacted soil for implementation of the ESS CM. As described in Section 1.1 above, a discrepancy in the location of the historical BaP impact was identified. The 1st Phase RFI identified the BaP impact as being associated with soil boring SB-0127 located in SWMU 30. However, the 2008 CMS identified the BaP impact as being associated with soil boring SB-0119 located in SWMU 38. Because of this discrepancy, Chevron performed a PDI in 2015 to evaluate and define BaP-impacted soil in both SWMU 30 and SWMU 38. A total of 19 borings were sampled to evaluate BaP impacts in SWMU 30 and SWMU 38. Of these, 15 were historical borings and four borings were advanced during the PDI.

PDI sampling was performed at soil boring S4691 in SWMU 38 adjacent to soil boring SB-0119 (as shown in the 2008 CMS) to confirm historical sampling results and to verify potential BaP impacts at SB-0119. BaP was not detected above the CMI action level of 10 mg/kg in any of the soil samples collected from PDI boring S4691, thereby indicating that SB-0119 did not have elevated BaP concentrations as was presented in the 2008 CMS. Since BaP impacts were not identified in SWMU 38, implementation of the ESS CM in SWMU 38 was not warranted or proposed.

PDI soil boring S4746 was advanced adjacent to historical boring SB-0127 to confirm the historical sampling results for that boring, which were incorrectly reported as releted to soil samples collected from boring SB-0119. BaP was detected at a concentration of 12 mg/kg in the soil sample collected from soil boring S4746 at a depth of 5.5 to 6.0 feet below ground surface (bgs), confirming the historical sample result reported in the 1st Phase RFI. Soil samples were also collected above and below the identified impact interval in soil boring S4746 to define the vertical extent of BaP-impacted soil at this location.

The horizontal extent of BaP-impacted soil surrounding PDI boring S4746 and historical boring SB-0127 in SWMU 30 is defined by historical borings SB-0111 and SB-0114 and PDI borings S4747 and S4748. Based on these sampling results and as presented in the approved SWMU 30/38 ESS IWP, ESS was proposed as the CM to address BaP-impacted soil identified in PDI boring S4746 and historical boring SB-0127 located in SWMU 30. The limits for ESS implementation in SWMU 30 and associated analytical results are presented in Figure 4.

3.0 ESS CORRECTIVE MEASURE

The ESS CM was implemented in SWMU 30 on October 27, 2015, as proposed in the NJDEP-approved SWMU 30/38 ESS IWP (Chevron 2015). Approximately 130 CY of BaP-impacted soil were removed from SWMU 30 for disposal in the on-site CAMU. The final limits of the ESS CMI area in SWMU 30 and pertinent delineation sample data are depicted in Figure 4. The actual ESS CM limits are consistent with the proposed limits presented in the NJDEP-approved SWMU 30/38 ESS IWP.

Because PDI soil sampling did not identify BaP-impacted soil in SWMU 38, the ESS CM was not implemented in that unit per the NJDEP-approved SWMU 30/38 ESS IWP.

3.1 CM Implementation

The implementation of the ESS CM in SWMU 30/38 included site preparation, management of excavated soil and groundwater, excavation backfilling, disposal soil in the on-site CAMU, and field CQA monitoring. These were implemented in accordance with methodologies outlined in the NJDEP-approved SWMU 30/38 ESS IWP (Chevron 2015). Details of the ESS CMI and any deviations from the proposed scope of work are discussed in the following sections.

3.1.1 Site Preparation

All underground utilities and/or obstructions were located, identified, and marked in the field before intrusive work began. The geophysical survey performed in the SWMU 30/38 area identified a large linear metal anomaly at approximately 5 to 6 feet bgs within the excavation footprint. Prior to the ESS CMI, Entact performed soft dig activities to uncover and confirm the location and depth of the metal anomaly. The linear metal anomaly was determined to be an inactive metal water line at approximately 3 feet bgs. Because this line was inactive, maintaining a 5-foot buffer around the line was not required.

Monitoring well MW-114 was depicted within the proposed SWMU 30 excavation area on Figure 5 of the SWMU 30/38 ESS IWP (Chevron 2015). However, a site walk was conducted during site preparation activities, and the actual location of monitoring well MW-114 was observed to be outside the excavation footprint, approximately 25 feet east of the location mapped in the SWMU 30/38 ESS IWP. Figure 4 depicts the correct location of MW-114 adjacent to MW-115. Since monitoring well MW-114 is located outside the SWMU 30 excavation footprint, MW-114 was not abandoned as proposed in the IWP.

3.1.2 Soil Excavation

The ESS CM was implemented in SWMU 30 to remove BaP-impacted soil surrounding historical boring SB-0127 and PDI boring S4746. The horizontal extent of BaP-impacted soil, a 934-square-foot area, was defined by historical borings SB-0111 and SB-0114 and PDI borings S4747 and S4748. The 2015 PDI sampling results showed that BaP

impacts were defined vertically and were limited to soil at depths between 4 and 7 feet bgs.

An excavator was used to remove the impacted soil, in accordance with the methodology outlined in the NJDEP-approved SWMU 30/38 IWP. Overburden soil was first removed from the ground surface to 4 feet bgs (El. 14 to 10 feet [NGVD][1]) within the proposed SWMU 30 ESS area and staged on plastic adjacent to the excavation. The underlying approximately 130 CY of BaP-impacted soil was excavated from 4 feet bgs to 7.8 feet bgs (El. 10 to 6.2 feet [NGVD 29]) and transported to the CAMU for disposal. As discussed in Section 3.1.1 above, the inactive water line identified within the SWMU 30 ESS implementation area was inactive. Since the Facility requirement to maintain a 5-foot buffer around the utility was therefore not necessary, BaP-impacted soil could be removed from around and beneath the inactive water line.

3.1.3 Excavated Material Transportation

The excavated soil was loaded into dump trucks and transported directly to the CAMU for disposal. No hazardous waste was encountered. Off-site disposal of excavated soil was therefore not necessary.

3.1.4 Management of Groundwater

Groundwater was encountered at approximately 6 feet bgs (El. 8 feet [NGVD 29]) during the 2015 PDI performed in SWMU 30/38. During ESS implementation, groundwater was encountered at approximately 7 feet bgs (El. 7 feet [NGVD 29]) in the northern extent of the excavation area. However, the flow of groundwater was not significant enough to impact the excavation activities, and pumping was not required to manage the groundwater, as had been proposed in the IWP. Therefore, no groundwater was recovered, contained in Frac-Tanks, characterized or pre-treated for discharge to the Facility's on-site effluent treatment plant.

3.1.5 Excavation Backfill

Entact imported certified clean fill material (see Appendix B - Tilcon Quarry Analytical Data Report) from the Tilcon quarry in Pompton Lakes, New Jersey. Six truckloads, totaling approximately 140.32 tons of dense-graded aggregate material, were used to backfill the ESS excavation (see Appendix C). The overburden soil removed from and stockpiled by the excavation was backfilled at the same depth interval from which it was originally removed. Backfilling was completed in lifts and compacted using heavy equipment to bring the SWMU 30/38 area back up to the surrounding grade (approximately elevation 14 feet [NGVD 29]) and stabilize the area and reduce settlement.

3.1.6 Disposal in CAMU

BaP-impacted soil from SWMU 30 was excavated and transported to the CAMU located in the Main Yard for disposal. The highest concentration of BaP detected in soil in

[1] El. = elevation; NGVD = National Geodetic Vertical Datum

SWMU 30 area was 18 mg/kg, which is well below the 34 mg/kg CAMU disposal criterion. The low concentration also limited the IWP requirement for sampling to demonstrate that the excavated soil meets the CAMU disposal criterion for BaP.

3.2 Institutional Control

When all CMs at the Facility are complete, a Facility-wide deed notice will be prepared and submitted to NJDEP for all contaminants present in soil above the most stringent NJDEP Soil Remediation Standards, including BaP-impacted soil remaining in SWMU 30/38. Remaining concentrations of BaP are between 0.66 mg/kg and 10 mg/kg in accordance with the HSWA Permit requirements. It is expected that the USEPA will issue a CA 550 determination (certification of remedy completion or construction completion) once the deed notice is recorded with the county and submitted to the USEPA and NJDEP.

3.3 Conclusions and Recommendations

The 2015 PDI performed in SWMU 30 successfully defined the limits of BaP-impacted soils. The historical and PDI sample locations were also used to define the limits of the ESS CMI area. In accordance with Section 5.1 of the NJDEP-approved ISS and ESS Final Design Report (Chevron 2016) and Section 6.3 of the NJDEP's *Technical Guidelines for Site Investigation of Soil, Remedial Investigation of Soil, and Remedial Action Verification Sampling for Soil* (2015), the historical and PDI samples were used in place of collecting post-excavation samples to define the limits of soil impacts and to document that impacted soil was successfully remediated.

The ESS CM in SWMU 30 was implemented within the limits defined by historical borings SB-0111 and SB-0114 and PDI borings S4747 and S4748 as shown on Figure 4. Based on the results of historical and 2015 PDI sampling, the ESS CMI in SWMU 30 was successful in removing soil with BaP impacts greater than 10 mg/kg.

Based on the 2015 PDI sampling results and the successful completion of the ESS CM in SWMU 30, Chevron recommends No Further Action for BaP impacts in SWMU 30 and SWMU 38 soil. Soil with BaP impacts at concentrations greater than 0.66 mg/kg and 10 mg/kg will be addressed with a Facility-wide deed notice in accordance with the HSWA Permit.

4.0 REFERENCES

Chevron. 1997. 1st-Phase RCRA Facility Investigation Soils Report RCRA Corrective Action Module #1. January.

Chevron. 2003. Full RCRA Facility Investigation (RFI) Report, November.

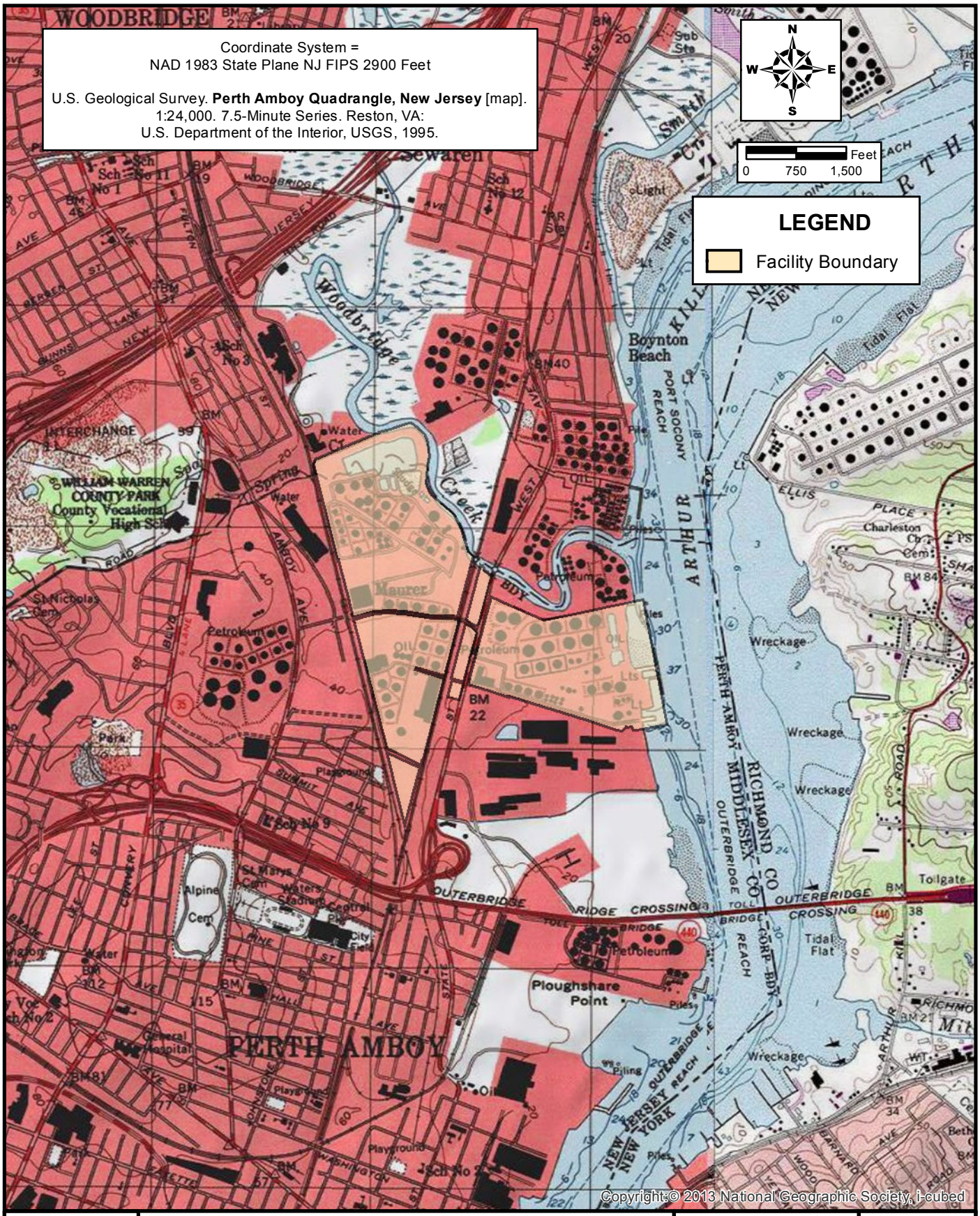
Chevron. 2008a. Corrective Measures Study Report for the Main Yard, East Yard and Central Yard. Prepared by URS Corporation. November.

Chevron. 2008b. Supplemental RCRA RFI Report. Prepared by Science Applications International Corp. February.

Chevron, 2016. In-Situ Stabilization and Ex-Situ Stabilization Final Design Report. May.

NJDEP. 2015. Technical Guidelines for Site Investigation of Soil, Remedial Investigation of Soil, and Remedial Action Verification Sampling for Soil.

FIGURES



Path: C:\Projects\Chevron\DMS\Projects\ISS-ESS\CMUs\SWMU 38\CCR\Figures\Figure 1 - USGS Map.mxd

Chevron

SITE LOCATION ON A USGS MAP

SWMU 30/38 ESS CCR

DATE: 11/14/2016	DWN: CO
	CHKD: JL
PROJECT #: 449789-37600	FIG #: 1

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N
W E
S

Feet
0 260 520

LEGEND

- CAMU Footprint
- SWMU Boundary
- Property Line
- Railroad
- Tank Berms

GENERAL NOTES:
* Aerial photograph dated 3 April 2012 was provided by Borbas Surveying and Mapping, LLC.

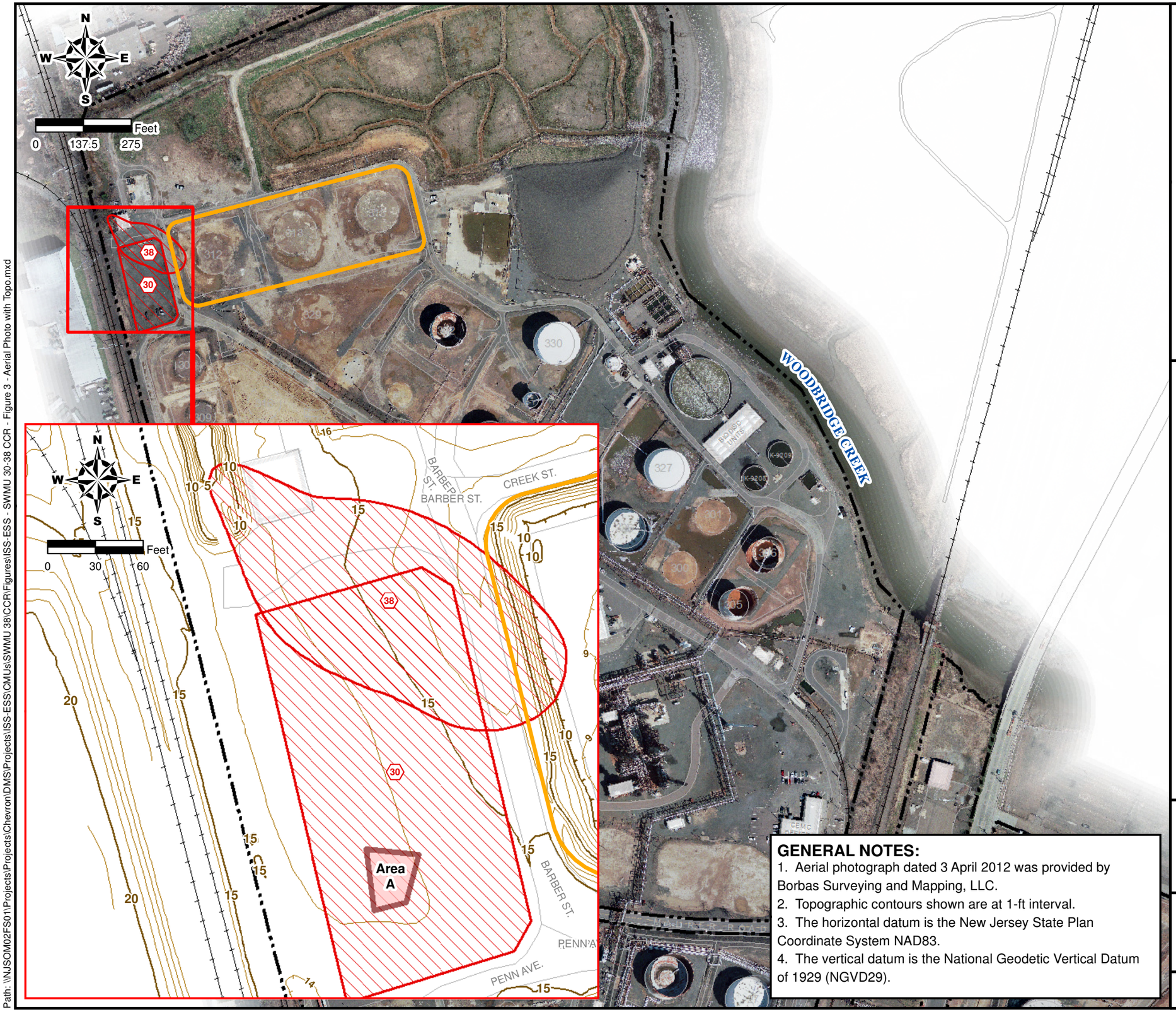
AERIAL PHOTOGRAPH OF PERTH AMBOY FACILITY SHOWING LOCATION OF SWMU 30/38 CMI AREA

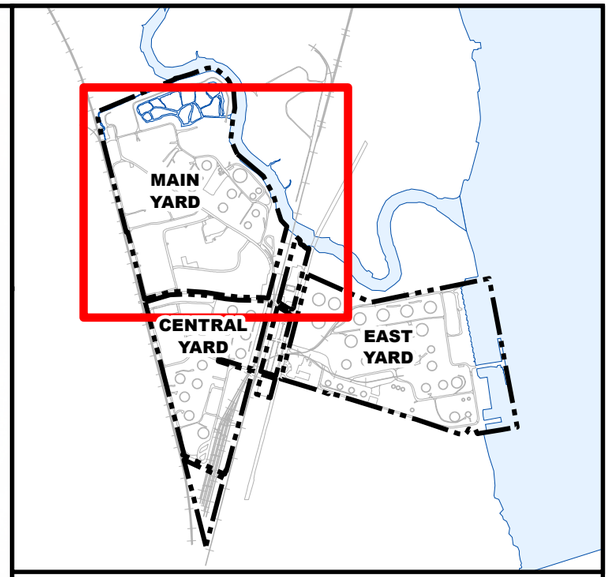
SWMU 30/38 ESS CCR

Chevron

CHEVRON
ENVIRONMENTAL MANAGEMENT COMPANY
PERTH AMBOY, NEW JERSEY

PROJECT #:	DATE:	DWN:	CHKD:	FIG NO.:
450335-37600	5/25/2017	TDU	JL	2





LEGEND

- ESS CMI Area
- CAMU Footprint
- SWMU Boundary
- Property Line
- Railroad
- Buildings

Topographic Contours

- 1' Contour
- 1' Contour Depression
- 5' Contour
- 5' Contour Depression

PERTINENT NOTES:

1. Limits of the SWMU boundaries are as presented in the 2008 CMS Report.

GENERAL NOTES:

1. Aerial photograph dated 3 April 2012 was provided by Borbas Surveying and Mapping, LLC.
2. Topographic contours shown are at 1-ft interval.
3. The horizontal datum is the New Jersey State Plan Coordinate System NAD83.
4. The vertical datum is the National Geodetic Vertical Datum of 1929 (NGVD29).

SWMU 30/38 ESS CMI AREA ON AN AERIAL PHOTOGRAPH WITH A TOPOGRAPHIC INSET MAP

SWMU 30/38 ESS CCR

CHEVRON
ENVIRONMENTAL MANAGEMENT COMPANY
PERTH AMBOY, NEW JERSEY

PROJECT #:	DATE:	DWN:	CHKD:	FIG NO.:
450335-37600	5/20/2015	TDU	JL	3

Path: \\NJSOM02FS01\Projects\Projects\Chevron\DMS\Projects\ISS-ESS\CMUs\SWMU 38\CCR\Figures\ISS-ESS - SWMU 30-38 CCR - Figure 3 - Aerial Photo with Topo.mxd

Area ID	CM Elev. Range (feet, NGVD)	CM Thickness (feet)	CM Area (sq. feet)	CM Volume (cyd)
ESS Area				
Area A	10.0 to 6.2	3.8	934	130

N W E S

Feet
0 7.5 15

SB-0114 - GS 13.5
13.5' to 11.5': 0.36 U mg/kg
9.5' to 7.5': 0.82 mg/kg
-2.5' to -4.5': 0.37 U mg/kg

S4748 - GS 14.1
8.6' to 8.1': 0.8 mg/kg

S4746 - GS 13.9
9.9' to 9.4': 0.004 J mg/kg
9.4' to 8.9': 0.004 U mg/kg
8.9' to 8.4': 0.004 J mg/kg
8.4' to 7.9': 12.0 mg/kg
7.4' to 6.9': 0.009 J mg/kg

MW-115
MW-114

Area A

SB-0127 - GS 13.6
13.6' to 11.6': 0.37 U mg/kg
9.6' to 7.6': 18.0 mg/kg
-2.4' to -4.4': 0.085 J mg/kg

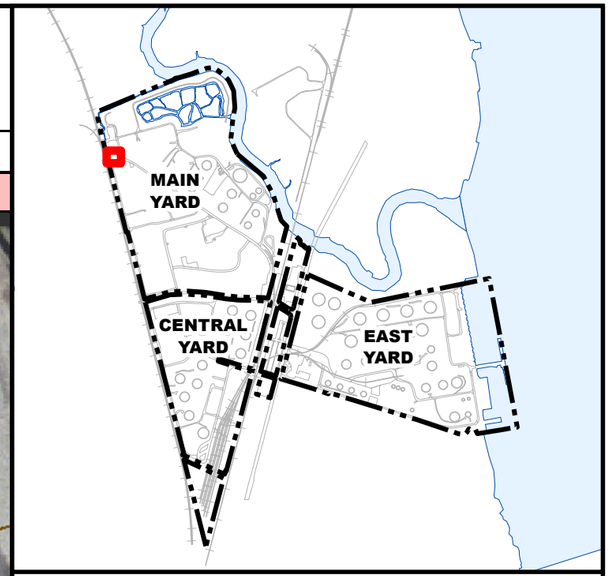
S4747 - GS 14.0
8.5' to 8.0': 0.13 mg/kg

SB-0111 - GS 13.6
13.6' to 11.6': 1.1 mg/kg
9.6' to 7.6': 0.31 mg/kg
-2.4' to -4.4': 0.37 U mg/kg

15 15 15 15 14 15

BERST.

PENN AVE.



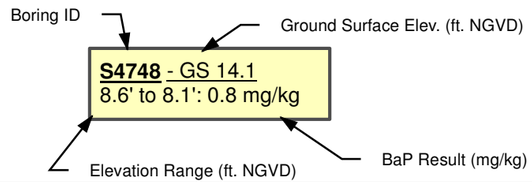
LEGEND

- Deep Monitoring Well - Current
- Shallow Monitoring Well - Current
- Soil Boring - Above CMI Action Level
- Soil Boring - Below CMI Action Level
- 2015 Boring Locations
- ESS CMI Area

Topographic Contours
- 1' Contour
- 1' Contour Depression
- 5' Contour
- Metal Anomaly (Inactive Water Line)

PERTINENT NOTES:

1. Sample depths have been converted to elevation (NGVD29).
2. Values in RED indicate results Benzo(a)Pyrene > 10 mg/kg.
3. Only borings with information relevant to ESS CM are shown on this figure. Remaining borings are not shown.
4. Samples within ESS CMI area were removed during excavation activities.



GENERAL NOTES:

1. "U" indicates compound not detected above MDL.
2. "J" indicates estimated concentration less that the reporting limit but above MDL.
3. Aerial photograph dated 3 April 2012 was provided by Borbas Surveying and Mapping, LLC.
4. Topographic contours shown are at 1-ft interval.
5. The horizontal datum is the New Jersey State Plan Coordinate System NAD83.
6. The vertical datum is the National Geodetic Vertical Datum of 1929 (NGVD29).

LIMITS OF THE SWMU 30 ESS CMI AREA WITH ASSOCIATED ANALYTICAL RESULTS

SWMU 30/38 ESS CCR

CHEVRON
ENVIRONMENTAL MANAGEMENT COMPANY
PERTH AMBOY, NEW JERSEY

PROJECT #:	DATE:	DWN:	CHKD:	FIG NO.:
450335-37600	5/25/2017	TDU	JL	4

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APPENDIX A

NJDEP APPROVAL LETTER OF SWMU 30/38
ESS IMPLEMENTATION WORK PLAN

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Case Management
Mail Code 401-05F
P.O. Box 420
Trenton, New Jersey 08625-0420
Telephone: 609-633-1455

BOB MARTIN
Commissioner

November 4, 2015

Sin-Kie Tjho
USEPA Region 2
290 Broadway - 22nd Floor
New York, NY 10007-1866

Re: Chevron's September 28, 2015 ESS Implementation Workplan for Solid Waste Management (SWMU) Unit 30/38,
Former Chevron Perth Amboy Refinery
Chevron USA, Inc.
Perth Amboy, Middlesex County, New Jersey
SRP PI# 003621
RPC000005

Dear Mr. Tjho:

The New Jersey Department of Environmental Protection (Department) has completed review of Chevron's ESS Implementation Workplan for SWMU 30/38, which were submitted pursuant to the Resource Conservation and Recovery Act, Hazardous and Solid Waste Amendments Permit of 2013, and the Technical Requirements for Site Remediation at N.J.A.C. 7:26E. The Department finds these documents acceptable. The Department hereby approves the above documents, effective the date of this letter.

If you have any questions, please contact me at 609-292-3007.

Sincerely,

Anne Pavelka

Anne Pavelka PG, CHMM
Case Manager
Bureau of Case Management

C: Jill Monroe, BGWPA
John Boyer, BEERA
Bob Mancini, Chevron

APPENDIX B

TILCON QUARRY ANALYTICAL DATA REPORT (ON CD)

IAL
Integrated Analytical Laboratories LLC

ANALYTICAL DATA REPORT

S & S Environmental
98 Sand Park Road
Cedar Grove, NJ 07009

Project Name: **POMPTON LAKES**
IAL Case Number: **E15-04336**

These data have been reviewed and accepted by:

Michael H. Leftin, Ph.D.
Laboratory Director

273 Franklin Road
Randolph, NJ 07869
Phone: 973 361 4252
Fax: 973 989 5288

IAL is a NELAP accredited lab (TNI01284) and maintains certification in Connecticut (PH-0699), New Jersey (14751), New York (11453), and Pennsylvania (68-00773).

INTEGRATED ANALYTICAL LABORATORIES, LLC.

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* Methodology is included in the IAL Project Information Page

INTEGRATED ANALYTICAL LABORATORIES, LLC.

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* Methodology is included in the IAL Project Information Page

INTEGRATED ANALYTICAL LABORATORIES, LLC.

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This report was finalized on June 10, 2015

* Methodology is included in the IAL Project Information Page

Sample Summary

IAL Case No.
E15-04336

Client S & S Environmental

Project POMPTON LAKES

Received On 5/27/2015@13:39

Lab ID	***Client Sample ID***	***Depth Top/Bottom***	***Sampling Time***	***Matrix***	***# of Container***
04336-001	15-070	n/a	5/26/2015@12:00	Solid	5

Integrated Analytical Labs ~ 273 Franklin Road, Randolph, NJ 07869 ~ (973) 361-4252 ~ Fax (973) 989-5288

DEFINITIONS / QUALIFIERS

DATA QUALIFIERS

B Indicates the analyte was found in the associated method blank as well as in the sample. It indicates probable laboratory contamination.

C Indicates analyte is a common laboratory contaminant.

D Indicates analyte was reported from diluted analysis.

E Identifies a compound concentration that exceeds the upper level of the calibration range of the instrument.

J Indicates an estimated value. This flag is used when the concentration in the sample is below the RL but above the MDL or for qualification of tentatively identified compounds.

N Presumptive evidence of a compound from the use of GC/MS library search.

X Indicates samples analyzed for total and dissolved metals differ at ≤20% RPD.

Z Indicates internal standard failure. Sample results are either biased high or biased low.

REPORTING DEFINITIONS

RL Reporting Limit. The RL is determined by the lowest concentration in the calibration curve. For most Wet Chemistry methods, the RL is defined by using the PQL.

MDL Method Detection Limit as determined according to 40CFR Part 136 Appendix B.

PQL Practical Quantitation Limit. Usually defined as a value 3-5 times the MDL.

ND Indicates analyte was analyzed for but not detected above the MDL.

DF Dilution Factor

LCS Laboratory Control Sample

LCSD Laboratory Control Sample Duplicate

MS Matrix Spike

MSD Matrix Spike Duplicate

DUP Duplicate

SAMPLE DELIVERY GROUP CASE NARRATIVE
(Conformance / Non-Conformance Summary)

INTEGRATED ANALYTICAL LABORATORIES, LLC

SAMPLE DELIVERY GROUP CASE NARRATIVE

SDG#: E15-04336

Integrated Analytical Laboratories, LLC. received one (1) sample from S & S Environmental (IAL SDG# **E15-04336**, Project: POMPTON LAKES) on May 27, 2015 for the analysis of :

(1) TCL+SRS VO + 15
(1) TCL+SRS BNA + 15
(1) NJ-EPH (C40) Cat 2
(1) TCL+SRS PCB
(1) TCL+SRS Pesticides
(1) TAL Metals
(1) Cr-VI (Hexavalent Chromium)
(1) Cyanide, Total
(1) pH/Corrosivity

Samples were received in good condition with documentation in order.
Cooler temperature was acceptable at 4 ± 2°C

Volatiles By 8260C **Batch: F150528-01** **Matrix: Solid**

QC
- Calibration curve met QC criteria.
- Internal standards recovery met QC criteria.
- Surrogate percent recovery met QC criteria. NJDEP DKQP criteria not met.
- Method blank met QC criteria.
- LCS/LCSD Percent Recovery met QC criteria.
- MS/MSD were not analyzed due to insufficient sample volume. LCS/LCSD were analyzed in their absence to meet method specific QC requirements.

E15-04336
- All samples were analyzed within holding time.

Dilution Summary:

Sample ID	DF(s)	Dilution For
E15-04336-001	1	NA

Semivolatiles By 8270D **Batch: 150527-03** **Matrix: Solid**

QC
- Calibration curve met QC criteria.
- Internal standard recovery me QC criteria.
- Surrogate recovery met QC criteria.
- Method blank met QC criteria.
- LCS percent recovery met QC criteria. NJDEP DKQP criteria not met.
- MS/MSD RPD met QC criteria.
- MS/MSD percent recovery met QC criteria. NJDEP DKQP criteria not met.

E15-04336
- Extraction holding time met requirement for each sample.
- Analysis holding time met requirement for each sample.

Dilution Summary:

Sample ID	DF(s)	Dilution For
E15-04336-001	1	NA

The result reported for 1,2-Diphenylhydrazine is also representative of Azobenzene. 1,2-Diphenylhydrazine rapidly decomposes to Azobenzene when exposed to water or heat. Analytical results from analysis of 1,2-Diphenylhydrazine will be directly compared to the applicable criteria for Azobenzene and/or 1,2-Diphenylhydrazine.

E15-04336 0004

INTEGRATED ANALYTICAL LABORATORIES, LLC

SAMPLE DELIVERY GROUP CASE NARRATIVE

SDG#: E15-04336

NJ-EPH-C40 By Method 10.08 Rev 3 | **Batch: 150527-02** | **Matrix: Solid**

QC
- Calibration curve met QC criteria.
- Surrogate percent recovery met QC criteria.
- Method blank met QC criteria.
- RPD between LCS/LCSD met QC criteria.
- LCS/LCSD Percent Recovery met QC criteria.
- MS Percent Recovery met QC criteria.
- RPD between the Sample/Duplicate met QC criteria.

E15-04336
- All samples were extracted within holding time.
- All samples were analyzed within holding time.
- Retention Time Shift met QC criteria.

Dilution Summary:

Sample ID	DF(s)	Dilution For
E15-04336-001	1	NA

PCB By 8082A | **Batch: 150527-04** | **Matrix: Solid**

QC
- Calibration curve met QC criteria.
- Surrogate percent recovery met QC criteria.
- Method blank met QC criteria.
- LCS Percent Recovery met QC criteria.
- RPD between MS/MSD met QC criteria.
- MS/MSD Percent Recovery met QC criteria.
- The following samples were cleaned up using method 3665A: 001.
- The following samples were cleaned up using method 3660B to remove sulfur: 001.

E15-04336
- All samples were extracted within holding time.
- All samples were analyzed within holding time.
- Retention Time Shift met QC criteria.

Dilution Summary:

Sample ID	DF(s)	Dilution For
E15-04336-001	1	NA

Pesticide By 8081B | **Batch: 150527-04** | **Matrix: Solid**

QC
- Calibration curve met QC criteria.
- Surrogate percent recovery met QC criteria.
- Method blank met QC criteria.
- LCS Percent Recovery met QC criteria.
- RPD between MS/MSD met QC criteria.
- MS/MSD Percent Recovery met QC criteria.
- The following samples were cleaned up using method 3660B to remove sulfur: 001.

E15-04336
- All samples were extracted within holding time.
- All samples were analyzed within holding time.
- Retention Time Shift met QC criteria.

Dilution Summary:

Sample ID	DF(s)	Dilution For
E15-04336-001	1	NA

INTEGRATED ANALYTICAL LABORATORIES, LLC

SAMPLE DELIVERY GROUP CASE NARRATIVE

SDG#: E15-04336

Metals By 6020A/7471B	Batch: S150528-01	Matrix: Solid

QC
- Calibration Curve Linearity met criteria.
- Internal Standard Recovery met criteria.
- LCS Percent Recovery met criteria.
- MS Percent Recoveries met criteria.
- Serial Dilution / Post Spike results met criteria.

E15-04336
- Digestion Holding Time met requirement for each sample.
- Analysis Holding Time met requirement for each sample.
- All samples were analyzed as a straight run and no further dilutions were required.

Hexavalent Chromium By 3060A/7196A	Batch: AP011-0052	Matrix: Solid

QC
- Method blank met QC criteria.
- LCS percent recovery met QC criteria.
- MS percent recovery met QC criteria.
- Laboratory characterization was performed to determine if reducing conditions exist in the sample (Eh, pH, Sulfide Odor).
- Sample results were not qualified based on the Matrix Spike results.
- Duplicate Recoveries met QC criteria.

E15-04336
- All samples were received within holding time.
- All samples were analyzed within holding time.

pH/Corrosivity By 9045D	Batch: AP023-0120	Matrix: Solid

QC
- All QC passed criteria.

E15-04336
- Holding time met requirement for each sample.

A review of the QA/QC measures for the analysis of the sample(s) contained in this report has been performed by:

Reviewed by

6/10/2015
Date

E15-04336 0006

DATA OF KNOWN QUALITY CONFORMANCE/NON-CONFORMANCE SUMMARY QUESTIONNAIRE

Laboratory Name: Integrated Analytical Laboratories
Client: S & S Environmental
Project Location: POMPTON LAKES
IAL Project #: E15-04336
IAL Sample ID(s): E15-04336-001
Sampling Date(s): 5/26/2015

List of DKQP Method Used:

TCL+SRS VO by 8260C
TCL+SRS BNA by 8270D
NJ-EPH (C40) Cat 2 by Method 10.08 Rev 3
TCL+SRS PCB by 8082A
TCL+SRS Pesticides by 8081B
TAL Metals by 6020A/7471B
Cr-VI (Hexavalent Chromium) by 3060A/7196A
Cyanide, Total by 9012B
pH/Corrosivity by 9045D

Notes: For all questions to which the response was "No" (with the exception of question #7), additional information is provided in the case narrative. If the answer to question **#1, #1A, or #1B** is "No", the data package does not meet the requirements for "

		YES	NO	N/A
1	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the NJDEP	X		
1A	Were the method specified handling, preservation, and holding time requirements met?	X		
1B	EPH Method: Was the EPH method conducted without significant modifications? (see Section 11.3 of respective DKQ methods)	X		
2	Were all samples received by the laboratory in a condition consistent with that described on the associated chain-of-custody document(s)?	X		
3	Were samples received at an appropriate temperature (4±2° C)?	X		
4	Were all QA/QC performance criteria specified in the NJDEP DKQP standards achieved?		X	
5A	Were reporting limits specified or referenced on the chain-of-custody or communicated to the laboratory prior to sample receipt?	X		
5B	Were these reporting limits met?		X	
6	For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the DKQP documents and/or site-specific QAPP?	X		
7	Are project-specific matrix spikes and/or laboratory duplicates included in this data set?		X	

RESULTS SUMMARY REPORT

INTEGRATED ANALYTICAL LABORATORIES, LLC.

SUMMARY REPORT
Client: S & S Environmental
Project: POMPTON LAKES
Lab Case No.: E15-04336

Lab ID:	**04336-001**		
Client ID:	**15-070**		
Matrix:	**Solid**		
Sampled Date	**5/26/15**		
PARAMETER(Units)	Conc	Q	MDL
Volatiles (Units)		***(mg/Kg)***	
Trichlorofluoromethane	0.00723		0.00078
Acetone	0.079		0.000669
Carbon disulfide	0.000881	J	0.000549
2-Butanone (MEK)	0.00182	J	0.000718
Toluene	0.00157		0.000279
Methyl acetate	0.00141	J	0.000517
TOTAL VO's:	0.092	J	
TOTAL TIC's:	ND		
TOTAL VO's & TIC's:	0.092	J	
Semivolatiles - BNA (Units)		***(mg/Kg)***	
TOTAL BNA'S:	ND		
TOTAL TIC's:	ND		
TOTAL BNA'S & TIC's:	ND		
PCB's (Units)		***(mg/Kg)***	
Aroclor-1016	ND		0.000656
Aroclor-1221	ND		0.000656
Aroclor-1232	ND		0.000656
Aroclor-1242	ND		0.000656
Aroclor-1248	ND		0.000656
Aroclor-1254	ND		0.000656
Aroclor-1260	ND		0.000656
Aroclor-1262	ND		0.000656
Aroclor-1268	ND		0.000656
PCBs	ND		0.000656

ND = Analyzed for but Not Detected at the MDL
J = Concentration detected at a value below the RL and above the MDL for target compounds. For non-target compounds (i.e. TICs), qualifier indicates estimated concentrations.
All qualifiers on individual Volatiles & Semivolatiles are carried down through summation.

INTEGRATED ANALYTICAL LABORATORIES, LLC.

SUMMARY REPORT
Client: S & S Environmental
Project: POMPTON LAKES
Lab Case No.: E15-04336

Lab ID:	**04336-001**		
Client ID:	**15-070**		
Matrix:	**Solid**		
Sampled Date	**5/26/15**		
PARAMETER(Units)	Conc	Q	MDL
Pesticides (Units)		*(mg/Kg)*	
alpha-BHC	ND		0.000164
beta-BHC	ND		0.000164
gamma-BHC (Lindane)	ND		0.000164
delta-BHC	ND		0.000164
Heptachlor	ND		0.000164
Aldrin	ND		0.000164
Heptachlor epoxide	ND		0.000164
Endosulfan I	ND		0.000164
4,4'-DDE	ND		0.000164
Dieldrin	ND		0.000164
Endrin	ND		0.000164
Endosulfan II	ND		0.000164
4,4'-DDD	ND		0.000164
Endrin aldehyde	ND		0.000164
Endosulfan sulfate	ND		0.000164
4,4'-DDT	ND		0.000164
Endrin ketone	ND		0.000164
Methoxychlor	ND		0.000164
alpha-Chlordane	ND		0.000164
gamma-Chlordane	ND		0.000164
Toxaphene	ND		0.00197
Endosulfan (I and II)	ND		0.000164
Chlordane (alpha and gamma)	ND		0.000164
NJ-EPH-C40 (Units)		*(mg/Kg)*	
C9-C40	45.2	J	20.0

ND = Analyzed for but Not Detected at the MDL
J = Concentration detected at a value below the RL and above the MDL for target compounds. For non-target compounds (i.e. TICs), qualifier indicates estimated concentrations.

INTEGRATED ANALYTICAL LABORATORIES, LLC.

SUMMARY REPORT
Client: S & S Environmental
Project: POMPTON LAKES
Lab Case No.: E15-04336

Lab ID:	**04336-001**		
Client ID:	**15-070**		
Matrix:	**Solid**		
Sampled Date	**5/26/15**		
PARAMETER(Units)	Conc	Q	MDL
Metals (Units)	*(mg/Kg)*		
Aluminum	6180		1.24
Antimony	ND		0.619
Arsenic	2.39		0.619
Barium	35.1		1.24
Beryllium	ND		0.495
Cadmium	ND		0.309
Calcium	5330		12.4
Chromium	27.5		1.24
Cobalt	12.2		1.24
Copper	66.4		1.24
Iron	18800		12.4
Lead	2.07		1.24
Magnesium	5120		12.4
Manganese	130		0.619
Mercury	ND		0.0028
Nickel	19.3		1.24
Potassium	3250		12.4
Selenium	4.55		1.24
Silver	ND		0.309
Sodium	366		12.4
Thallium	ND		0.309
Vanadium	36.6		1.24
Zinc	19.4		1.24
General Analytical (Units)			
Hexavalent Chromium(mg/Kg)	ND		0.167
Cyanide, Total(mg/Kg)	ND		0.450
pH/Corrosivity(SU)	8.76		NA

ND = Analyzed for but Not Detected at the MDL

ANALYTICAL RESULTS

INTEGRATED ANALYTICAL LABORATORIES

VOLATILE ORGANICS

Lab ID: 04336-001
Client ID: 15-070
Date Received: 05/27/2015
Date Analyzed: 05/28/2015
Data file: F1097.D

GC/MS Column: DB-624
Sample wt/vol: 5.2g
Matrix-Units: Solid-mg/Kg
Dilution Factor: 1
% Moisture: NA

Compound	Concentration	Q	RL	MDL
Dichlorodifluoromethane	ND		0.00096	0.000422
Chloromethane	ND		0.00096	0.000431
Vinyl chloride	ND		0.00096	0.000409
Bromomethane	ND		0.00096	0.000614
Chloroethane	ND		0.00096	0.000487
Trichlorofluoromethane	0.00723		0.00096	0.00078
Acrolein	ND		0.019	0.00137
1,1-Dichloroethene	ND		0.00096	0.000468
Acetone	0.079		0.0048	0.000669
Carbon disulfide	0.000881	J	0.00096	0.000549
Methylene chloride	ND		0.00192	0.0019
Acrylonitrile	ND		0.019	0.00245
tert-Butyl alcohol (TBA)	ND		0.00384	0.00147
trans-1,2-Dichloroethene	ND		0.00096	0.000359
Methyl tert-butyl ether (MTBE)	ND		0.00096	0.000358
1,1-Dichloroethane	ND		0.00096	0.000258
cis-1,2-Dichloroethene	ND		0.00096	0.000306
2-Butanone (MEK)	0.00182	J	0.00192	0.000718
Bromochloromethane	ND		0.00096	0.000405
Chloroform	ND		0.00096	0.000403
1,1,1-Trichloroethane	ND		0.00096	0.00042
Carbon tetrachloride	ND		0.00096	0.000641
1,2-Dichloroethane (EDC)	ND		0.00096	0.000334
Benzene	ND		0.00096	0.000261
Trichloroethene	ND		0.00096	0.000309
1,2-Dichloropropane	ND		0.00096	0.00034
1,4-Dioxane	ND		0.192	0.019
Bromodichloromethane	ND		0.00096	0.000401
cis-1,3-Dichloropropene	ND		0.00096	0.000384
4-Methyl-2-pentanone (MIBK)	ND		0.00096	0.000481

INTEGRATED ANALYTICAL LABORATORIES

VOLATILE ORGANICS

Lab ID: 04336-001
Client ID: 15-070
Date Received: 05/27/2015
Date Analyzed: 05/28/2015
Data file: F1097.D

GC/MS Column: DB-624
Sample wt/vol: 5.2g
Matrix-Units: Solid-mg/Kg
Dilution Factor: 1
% Moisture: NA

Compound	Concentration	Q	RL	MDL
Toluene	0.00157		0.00096	0.000279
trans-1,3-Dichloropropene	ND		0.00096	0.000293
1,1,2-Trichloroethane	ND		0.00096	0.000226
Tetrachloroethene	ND		0.00096	0.000475
2-Hexanone	ND		0.00096	0.000555
Dibromochloromethane	ND		0.00096	0.000283
1,2-Dibromoethane (EDB)	ND		0.00096	0.000339
Chlorobenzene	ND		0.00096	0.000323
Ethylbenzene	ND		0.00096	0.000328
Total Xylenes	ND		0.00192	0.000771
Styrene	ND		0.00096	0.000344
Bromoform	ND		0.00096	0.000443
Isopropylbenzene	ND		0.00096	0.00042
1,1,2,2-Tetrachloroethane	ND		0.00096	0.000376
1,3-Dichlorobenzene	ND		0.00096	0.000452
1,4-Dichlorobenzene	ND		0.00096	0.000509
1,2-Dichlorobenzene	ND		0.00096	0.000463
1,2-Dibromo-3-chloropropane	ND		0.00096	0.000613
1,2,4-Trichlorobenzene	ND		0.00096	0.000422
1,2,3-Trichlorobenzene	ND		0.00096	0.00055
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.00096	0.000663
Methyl acetate	0.00141	J	0.0048	0.000517
Cyclohexane	ND		0.00192	0.000498
Methylcyclohexane	ND		0.00096	0.000536
1,3-Dichloropropene (cis- and trans-)	ND		0.00096	0.000384
Total Target Compounds (55):	0.092	J		

D --- Dilution Performed
J --- Value Less than RL & greater than MDL
E --- Exceeds upper level of Calibration curve

B --- Compound detected in Blank
C --- Common laboratory contamination

E15-04336 0014

INTEGRATED ANALYTICAL LABORATORIES

VOLATILE ORGANICS
Tentatively Identified Compounds

Lab ID: 04336-001
Client ID: 15-070
Date Received: 05/27/2015
Date Analyzed: 05/28/2015
Date File: F1097.D

GC/MS Column: DB-624
Sample wt/vol: 5.2g
Matrix-Units: Solid-mg/Kg
Dilution Factor: 1
% Moisture: NA

CAS #	Compound	Estimated Concentration	Q	Retention Time

No peaks detected

Total TICs = 0

D --- Dilution Performed

J --- Estimated concentration for TICs

N --- Presumptive evidence of a compound from the use of GC/MS NIST library search

INTEGRATED ANALYTICAL LABORATORIES

SEMIVOLATILE ORGANICS

Lab ID: E15-04336-001
Client ID: 15-070
Date Received: 05/27/2015
Date Extracted: 05/27/2015
Date Analyzed: 05/28/2015
Data file: C5786.D

GC/MS Column: DB-5
Sample wt/vol: 15.26g
Matrix-Units: Solid-mg/Kg
Dilution Factor: 1
% Moisture: NA

Compound	Concentration	Q	RL	MDL
N-Nitrosodimethylamine	ND		0.033	0.028
Benzaldehyde	ND		0.033	0.020
Phenol	ND		0.033	0.021
Bis(2-chloroethyl) ether	ND		0.033	0.020
2-Chlorophenol	ND		0.033	0.020
2-Methylphenol	ND		0.033	0.023
Bis(2-chloroisopropyl) ether	ND		0.033	0.020
4-Methylphenol **	ND		0.033	0.026
N-Nitrosodi-n-propylamine	ND		0.033	0.027
Acetophenone	ND		0.033	0.027
Hexachloroethane	ND		0.033	0.020
Nitrobenzene	ND		0.033	0.028
Isophorone	ND		0.033	0.030
2-Nitrophenol	ND		0.033	0.020
2,4-Dimethylphenol	ND		0.033	0.023
Bis(2-chloroethoxy) methane	ND		0.033	0.020
2,4-Dichlorophenol	ND		0.033	0.020
Naphthalene	ND		0.033	0.020
4-Chloroaniline	ND		0.033	0.020
Hexachlorobutadiene	ND		0.033	0.020
Caprolactam	ND		0.033	0.021
4-Chloro-3-methylphenol	ND		0.033	0.020
2-Methylnaphthalene	ND		0.033	0.020
Hexachlorocyclopentadiene	ND		0.033	0.020
2,4,6-Trichlorophenol	ND		0.033	0.020
2,4,5-Trichlorophenol	ND		0.033	0.020
1,1'-Biphenyl	ND		0.033	0.020
2-Chloronaphthalene	ND		0.033	0.020
2-Nitroaniline	ND		0.033	0.020
Dimethyl phthalate	ND		0.033	0.025

INTEGRATED ANALYTICAL LABORATORIES

SEMIVOLATILE ORGANICS

Lab ID: E15-04336-001
Client ID: 15-070
Date Received: 05/27/2015
Date Extracted: 05/27/2015
Date Analyzed: 05/28/2015
Data file: C5786.D

GC/MS Column: DB-5
Sample wt/vol: 15.26g
Matrix-Units: Solid-mg/Kg
Dilution Factor: 1
% Moisture: NA

Compound	Concentration	Q	RL	MDL
2,6-Dinitrotoluene	ND		0.033	0.020
Acenaphthylene	ND		0.033	0.023
3-Nitroaniline	ND		0.033	0.025
Acenaphthene	ND		0.033	0.025
2,4-Dinitrophenol	ND		0.033	0.023
4-Nitrophenol	ND		0.033	0.026
2,4-Dinitrotoluene	ND		0.033	0.020
Dibenzofuran	ND		0.033	0.020
Diethyl phthalate	ND		0.033	0.030
Fluorene	ND		0.033	0.020
4-Chlorophenyl phenyl ether	ND		0.033	0.020
4-Nitroaniline	ND		0.033	0.020
1,2,4,5-Tetrachlorobenzene	ND		0.033	0.020
2,3,4,6-Tetrachlorophenol	ND		0.033	0.020
4,6-Dinitro-2-methylphenol	ND		0.328	0.020
N-Nitrosodiphenylamine	ND		0.033	0.020
1,2-Diphenylhydrazine	ND		0.033	0.020
4-Bromophenyl phenyl ether	ND		0.033	0.020
Hexachlorobenzene	ND		0.033	0.020
Atrazine	ND		0.033	0.020
Pentachlorophenol	ND		0.033	0.020
Phenanthrene	ND		0.033	0.020
Anthracene	ND		0.033	0.020
Carbazole	ND		0.033	0.020
Di-n-butyl phthalate	ND		0.033	0.020
Fluoranthene	ND		0.033	0.020
Benzidine	ND		0.033	0.020
Pyrene	ND		0.033	0.020
Butyl benzyl phthalate	ND		0.033	0.020
3,3'-Dichlorobenzidine	ND		0.033	0.023
Benzo[a]anthracene	ND		0.033	0.020
Chrysene	ND		0.033	0.020
Bis(2-ethylhexyl) phthalate	ND		0.033	0.020
Di-n-octyl phthalate	ND		0.033	0.024
Benzo[b]fluoranthene	ND		0.033	0.020
Benzo[k]fluoranthene	ND		0.033	0.020
Benzo[a]pyrene	ND		0.033	0.020
Indeno[1,2,3-cd]pyrene	ND		0.033	0.029
Dibenz[a,h]anthracene	ND		0.033	0.020
Benzo[g,h,i]perylene	ND		0.033	0.020
Dinitrotoluene (2,4- and 2,6-)	ND		0.033	0.020

Total Target Compounds (71): 0

D --- Dilution Performed
J --- Value Less than RL & greater than MDL
E --- Exceeds upper level of Calibration curve

** - represents the total [illegible]
B --- Compound detected in Blank
C --- Common laboratory contamination

INTEGRATED ANALYTICAL LABORATORIES

SEMIVOLATILE ORGANICS
Tentatively Identified Compounds

Lab ID: E15-04336-001
Client ID: 15-070
Date Received: 05/27/2015
Date Extracted: 05/27/2015
Date Analyzed: 05/28/2015
Date File: C5786.D

GC/MS Column: DB-5
Sample wt/vol: 15.26g
Matrix-Units: Solid-mg/Kg
Dilution Factor: 1
% Moisture: NA

CAS #	Compound	Estimated Concentration	Q	Retention Time
	No peaks detected			

Total TICs = 0

D --- Dilution Performed
J --- Estimated concentration for TICs
N --- Presumptive evidence of a compound from the use of GC/MS NIST library search
B --- Compound detected in Blank

INTEGRATED ANALYTICAL LABORATORIES

PCB's

Lab ID: E15-04336-001
Client ID: 15-070
Date Received: 05/27/2015
Date Extracted: 05/27/2015
Date Analyzed: 05/28/2015
Data file: Y2582.D

GC Column: DB-5/DB1701P
Sample wt/vol: 30.44g
Matrix-Units: Solid-mg/Kg
Dilution Factor: 1
% Moisture: NA

Compound	Concentration	Q	RL	MDL
Aroclor-1016	ND		0.00164	0.000656
Aroclor-1221	ND		0.00164	0.000656
Aroclor-1232	ND		0.00164	0.000656
Aroclor-1242	ND		0.00164	0.000656
Aroclor-1248	ND		0.00164	0.000656
Aroclor-1254	ND		0.00164	0.000656
Aroclor-1260	ND		0.00164	0.000656
Aroclor-1262	ND		0.00164	0.000656
Aroclor-1268	ND		0.00164	0.000656
PCBs	ND		0.00164	0.000656

D --- Dilution Performed
J --- Value Less than RL & greater than MDL
E --- Exceeds upper level of Calibration curve

B --- Compound detected in Blank
C --- Common laboratory contamination

E15-04336 0019

INTEGRATED ANALYTICAL LABORATORIES

PESTICIDES

Lab ID: E15-04336-001
Client ID: 15-070
Date Received: 05/27/2015
Date Extracted: 05/27/2015
Date Analyzed: 05/29/2015
Data file: O9528.D

GC Column: RTX-CLP1/CLP2
Sample wt/vol: 30.44g
Matrix-Units: Solid-mg/Kg
Dilution Factor: 1
% Moisture: NA

Compound	Concentration	Q	RL	MDL
alpha-BHC	ND		0.000328	0.000164
beta-BHC	ND		0.000328	0.000164
gamma-BHC (Lindane)	ND		0.000328	0.000164
delta-BHC	ND		0.000328	0.000164
Heptachlor	ND		0.000328	0.000164
Aldrin	ND		0.000328	0.000164
Heptachlor epoxide	ND		0.000328	0.000164
Endosulfan I	ND		0.000328	0.000164
4,4'-DDE	ND		0.000328	0.000164
Dieldrin	ND		0.000328	0.000164
Endrin	ND		0.000328	0.000164
Endosulfan II	ND		0.000328	0.000164
4,4'-DDD	ND		0.000328	0.000164
Endrin aldehyde	ND		0.000328	0.000164
Endosulfan sulfate	ND		0.000328	0.000164
4,4'-DDT	ND		0.000328	0.000164
Endrin ketone	ND		0.000328	0.000164
Methoxychlor	ND		0.000328	0.000164
alpha-Chlordane	ND		0.000328	0.000164
gamma-Chlordane	ND		0.000328	0.000164
Toxaphene	ND		0.0041	0.00197
Endosulfan (I and II)	ND		0.000328	0.000164
Chlordane (alpha and gamma)	ND		0.000328	0.000164

D --- Dilution Performed
J --- Value Less than RL & greater than MDL
E --- Exceeds upper level of Calibration curve

B --- Compound detected in Blank
C --- Common laboratory contamination

INTEGRATED ANALYTICAL LABORATORIES

NJ-EPH-C40

Lab ID: E15-04336-001
Client ID: 15-070
Date Received: 05/27/2015
Date Extracted: 05/27/2015
Date Analyzed: 06/01/2015
Data file: I9544.D

GC Column: RTX-5
Sample wt/vol: 10.0g
Matrix-Units: SOLID-mg/Kg
Dilution Factor: 1
% Moisture: NA

Compound	Concentration	Q	RL	MDL
C9-C40	45.2	J	50.0	20.0

D --- Dilution Performed
J --- Value Less than RL & greater than MDL
E --- Exceeds upper level of Calibration curve

B --- Compound detected in Blank
C --- Common laboratory contamination

E15-04336 0021

INTEGRATED ANALYTICAL LABORATORIES, LLC.

METALS

Client/Project: S&S/POMPTON LAKES

Lab ID: E15-04336-001
Client ID: 15-070
Date Collected: 05/26/15 12:00
Date Received: 05/27/15 13:39
Matrix-Units: Solid-mg/Kg (ppm)
% Moisture: 0
Batch #: 265

Compound	Result	Q	DF	RL	MDL	Date Analyzed	Method
Aluminum	6180		1	1.24	1.24	05/29/15 15:26	6020A
Antimony	ND		1	1.24	0.619	05/29/15 15:26	6020A
Arsenic	2.39		1	1.24	0.619	05/29/15 15:26	6020A
Barium	35.1		1	1.24	1.24	05/29/15 15:26	6020A
Beryllium	ND		1	1.24	0.495	05/29/15 15:26	6020A
Cadmium	ND		1	1.24	0.309	05/29/15 15:26	6020A
Calcium	5330		1	12.4	12.4	05/29/15 15:26	6020A
Chromium	27.5		1	1.24	1.24	05/29/15 15:26	6020A
Cobalt	12.2		1	1.24	1.24	05/29/15 15:26	6020A
Copper	66.4		1	1.24	1.24	05/29/15 15:26	6020A
Iron	18800		1	12.4	12.4	05/29/15 15:26	6020A
Lead	2.07		1	1.24	1.24	05/29/15 15:26	6020A
Magnesium	5120		1	12.4	12.4	05/29/15 15:26	6020A
Manganese	130		1	1.24	0.619	05/29/15 15:26	6020A
Mercury	ND		1	0.0058	0.0028	05/28/15 14:23	7471B
Nickel	19.3		1	1.24	1.24	05/29/15 15:26	6020A
Potassium	3250		1	12.4	12.4	05/29/15 15:26	6020A
Selenium	4.55		1	1.24	1.24	05/29/15 15:26	6020A
Silver	ND		1	1.24	0.309	05/29/15 15:26	6020A
Sodium	366		1	12.4	12.4	05/29/15 15:26	6020A
Thallium	ND		1	1.24	0.309	05/29/15 15:26	6020A
Vanadium	36.6		1	1.24	1.24	05/29/15 15:26	6020A
Zinc	19.4		1	1.24	1.24	05/29/15 15:26	6020A

ND = Analyzed for but Not Detected at the MDL

INTEGRATED ANALYTICAL LABORATORIES, LLC.

Hexavalent Chromium

Client/Project: S&S/POMPTON LAKES

Date Received: 05/27/15 13:39
Method: 3060A/7196A

Lab ID	Client ID	Result	Q	DF	Matrix-Unit	MDL	RL	% Solid	Date Collected	Date Analyzed
E15-04336-001	15-070	ND		1	Solid-mg/Kg	0.167	1.00	100	05/26/15 12:00	05/29/15 14:50

INTEGRATED ANALYTICAL LABORATORIES, LLC.

pH/Corrosivity

Client/Project: S&S/POMPTON LAKES

Date Received: 05/27/15 13:39
Method: 9045D

Lab ID	Client ID	Result	Q	DF	Matrix-Unit	MDL	RL	% Solid	Date Collected	Date Analyzed
E15-04336-001	15-070	8.76		1	Solid-SU	NA	NA	100	05/26/15 12:00	05/29/15 10:28

INTEGRATED ANALYTICAL LABORATORIES, LLC.

Cyanide, Total

Client/Project: S&S/POMPTON LAKES

Date Received: 05/27/15 13:39
Method: 9012B

Lab ID	Client ID	Result	Q	DF	Matrix-Unit	MDL	RL	% Solid	Date Collected	Date Analyzed
E15-04336-001	15-070	ND		1	Solid-mg/Kg	0.450	1.00	100	05/26/15 12:00	05/28/15 17:54

VOLATILE ORGANICS

VOLATILE ORGANICS QC SUMMARY

VOLATILE SURROGATE PERCENT RECOVERY SUMMARY

Date Analyzed: 05/28/2015

Lab Sample ID	Matrix	File ID	SMC1	#	SMC2	#	SMC3	#
BLKS150528-01	SOIL	F1091.D	132	$	100		98	
04271-002DUP	SOIL	F1092.D	160	$	110		97	
04271-003	SOIL	F1093.D	138	$	101		99	
LCSS150528-01	SOIL	F1094.D	118		108		110	
LCSDS150528-01	SOIL	F1095.D	114		107		108	
04336-001	SOLID	F1097.D	137	$	105		104	
04257-004	SOIL	F1099.D	122		96		76	
04257-007	SOIL	F1100.D	125		102		100	
04257-008	SOIL	F1101.D	124		101		84	
04257-011	SOIL	F1102.D	136	$	98		69	$

	Concentration	DKQPs	Leachate Aqueous/Meoh	Soil
SMC1 = 1,2-Dichloroethane-d4	50 ppb	70-130	55-153	36-162
SMC2 = Toluene-d8	50 ppb	70-130	56-151	46-156
SMC3 = Bromofluorobenzene	50 ppb	70-130	67-140	43-151

Column used to flag recovery values that did not meet criteria
* Values outside of QC limits
$ Values outside of NJ DKQP limits
D Surrogate diluted out
M Matrix interference

INTEGRATED ANALYTICAL LABORATORIES

8260

LCS/LCSD SPIKE REPORT

Lab ID: BLKS150528-01
Client ID: BLKS150528-01
Date Received:
Date Analyzed: 05/28/2015
MS Data file: F1094.D
MSD Data file: F1095.D

GC/MS Column: DB-624
Sample wt/vol: 5g
Matrix-Units: Soil-µg/Kg
% Moisture: NA
Dilution Factor: 1
Dilution Factor: 1

Compound	Conc. Add	Sample	Conc. MS	%Rec. MS	#	Conc. MSD	%Rec. MSD	#	%RPD	#
Dichlorodifluoromethane	50.0	0.0	41.0	82		41.1	82		0	
Chloromethane	50.0	0.0	48.9	98		46.8	94		4	
Vinyl chloride	50.0	0.0	56.2	112		55.0	110		2	
Bromomethane	50.0	0.0	58.2	116		56.3	113		3	
Chloroethane	50.0	0.0	60.3	121		58.2	116		4	
Trichlorofluoromethane	50.0	0.0	59.9	120		57.0	114		5	
Acrolein	150	0.0	117	78		109	73		7	
1,1-Dichloroethene	50.0	0.0	58.6	117		56.1	112		4	
Acetone	50.0	0.0	63.0	126		59.6	119		6	
Carbon disulfide	50.0	0.0	60.3	121		58.1	116		4	
Vinyl acetate	50.0	0.0	48.9	98		46.7	93		5	
Methylene chloride	50.0	0.0	62.5	125		59.7	119		5	
Acrylonitrile	150	0.0	177	118		166	111		6	
tert-Butyl alcohol (TBA)	100	0.0	118.2	118		113.2	113		4	
trans-1,2-Dichloroethene	50.0	0.0	48.0	96		46.0	92		4	
Methyl tert-butyl ether (MTBE)	50.0	0.0	48.7	97		47.6	95		2	
1,1-Dichloroethane	50.0	0.0	49.2	98		48.0	96		2	
Diisopropyl ether (DIPE)	50.0	0.0	52.7	105		51.0	102		3	
cis-1,2-Dichloroethene	50.0	0.0	48.0	96		46.5	93		3	
2,2-Dichloropropane	50.0	0.0	47.9	96		46.9	94		2	
2-Butanone (MEK)	50.0	0.0	57.6	115		54.8	110		5	
Bromochloromethane	50.0	0.0	47.5	95		46.0	92		3	
Chloroform	50.0	0.0	49.5	99		47.2	94		5	
1,1,1-Trichloroethane	50.0	0.0	54.4	109		52.8	106		3	
Carbon tetrachloride	50.0	0.0	54.8	110		52.8	106		4	
1,1-Dichloropropene	50.0	0.0	52.9	106		51.0	102		4	
1,2-Dichloroethane (EDC)	50.0	0.0	52.6	105		49.6	99		6	
Benzene	50.0	0.0	46.8	94		45.1	90		4	
Trichloroethene	50.0	0.0	46.5	93		45.4	91		2	
1,2-Dichloropropane	50.0	0.0	48.2	96		46.7	93		3	
Dibromomethane	50.0	0.0	47.9	96		45.9	92		4	
1,4-Dioxane	1,500	0.0	1393	93		1469	98		5	
Bromodichloromethane	50.0	0.0	50.4	101		48.5	97		4	
2-Chloroethyl vinyl ether	50.0	0.0	41.6	83		41.4	83		0	
cis-1,3-Dichloropropene	50.0	0.0	48.8	98		47.3	95		3	
4-Methyl-2-pentanone (MIBK)	50.0	0.0	52.3	105		50.1	100		4	
Toluene	50.0	0.0	45.4	91		43.6	87		4	
trans-1,3-Dichloropropene	50.0	0.0	49.0	98		47.6	95		3	
1,1,2-Trichloroethane	50.0	0.0	47.0	94		45.7	91		3	
Tetrachloroethene	50.0	0.0	45.5	91		43.7	87		4	
1,3-Dichloropropane	50.0	0.0	48.1	96		46.5	93		3	

INTEGRATED ANALYTICAL LABORATORIES

LCS/LCSD SPIKE REPORT

Lab ID: BLKS150528-01
Client ID: BLKS150528-01
Date Received:
Date Analyzed: 05/28/2015
MS Data file: F1094.D
MSD Data file: F1095.D

GC/MS Column: DB-624
Sample wt/vol: 5g
Matrix-Units: Soil-µg/Kg
% Moisture: NA
Dilution Factor: 1
Dilution Factor: 1

Compound	Conc. Add	Sample	Conc. MS	%Rec. MS	#	Conc. MSD	%Rec. MSD	#	%RPD	#
2-Hexanone	50.0	0.0	52.9	106		50.5	101		5	
Dibromochloromethane	50.0	0.0	47.6	95		45.9	92		4	
1,2-Dibromoethane (EDB)	50.0	0.0	47.1	94		46.2	92		2	
Chlorobenzene	50.0	0.0	40.3	81		39.4	79		2	
1,1,1,2-Tetrachloroethane	50.0	0.0	44.5	89		42.9	86		4	
Ethylbenzene	50.0	0.0	43.7	87		42.4	85		3	
m,p-Xylene	100	0.0	88.5	89		84.8	85		4	
o-Xylene	50.0	0.0	45.0	90		43.8	88		3	
Styrene	50.0	0.0	45.4	91		43.9	88		3	
Bromoform	50.0	0.0	43.4	87		41.9	84		4	
Isopropylbenzene	50.0	0.0	44.5	89		42.9	86		4	
1,1,2,2-Tetrachloroethane	50.0	0.0	45.5	91		43.5	87		4	
Bromobenzene	50.0	0.0	42.5	85		41.1	82		3	
1,2,3-Trichloropropane	50.0	0.0	47.6	95		46.0	92		3	
n-Propylbenzene	50.0	0.0	46.0	92		44.1	88		4	
2-Chlorotoluene	50.0	0.0	44.7	89		42.9	86		4	
1,3,5-Trimethylbenzene	50.0	0.0	46.1	92		44.2	88		4	
4-Chlorotoluene	50.0	0.0	44.1	88		41.8	84		5	
tert-Butylbenzene	50.0	0.0	44.4	89		42.4	85		5	
1,2,4-Trimethylbenzene	50.0	0.0	45.7	91		43.9	88		4	
sec-Butylbenzene	50.0	0.0	46.6	93		44.6	89		4	
1,3-Dichlorobenzene	50.0	0.0	42.9	86		40.9	82		5	
4-Isopropyltoluene	50.0	0.0	44.4	89		42.8	86		4	
1,4-Dichlorobenzene	50.0	0.0	43.1	86		41.1	82		5	
n-Butylbenzene	50.0	0.0	47.8	96		45.3	91		5	
1,2-Dichlorobenzene	50.0	0.0	45.0	90		42.6	85		5	
1,2-Dibromo-3-chloropropane	50.0	0.0	51.3	103		48.1	96		6	
1,2,4-Trichlorobenzene	50.0	0.0	43.6	87		40.3	81		8	
Hexachlorobutadiene	50.0	0.0	47.0	94		45.0	90		4	
Naphthalene	50.0	0.0	48.1	96		45.6	91		5	
1,2,3-Trichlorobenzene	50.0	0.0	43.8	88		41.4	83		6	
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	0.0	61.3	123		59.8	120		2	
Methyl acetate	50.0	0.0	58.6	117		56.5	113		4	
Cyclohexane	50.0	0.0	49.4	99		48.1	96		3	
Methylcyclohexane	50.0	0.0	50.6	101		49.0	98		3	

	Leachate Aqueous/Meoh	Soil/Sediment
MS/MSD Recovery Limits	70-130	70-130
MS/MSD RPD Limits (IAL/DKQP)	30/20	30/30

Column used to flag recovery and RPD values that did not meet criteria
* Values outside of QC limits
$ Values outside of NJ DKQP limits
NC Not calculable

E15-04336 0030

INTEGRATED ANALYTICAL LABORATORIES

LCS/LCSD SPIKE REPORT

Lab ID: BLKS150528-01
Client ID: BLKS150528-01
Date Received:
Date Analyzed: 05/28/2015
MS Data file: F1094.D
MSD Data file: F1095.D

GC/MS Column: DB-624
Sample wt/vol: 5g
Matrix-Units: Soil-µg/Kg
% Moisture: NA
Dilution Factor: 1
Dilution Factor: 1

Compound	Conc. Add	Sample	Conc. MS	%Rec. MS	#	Conc. MSD	%Rec. MSD	#	%RPD	#

As per SW-846 8260C, up to 10% of the compounds may be out , but must be within 40-160%
As per NJDEP DKQPs, only the following compounds may be in the 40-160% range:
Acetone; Bromomethane; 2-Butanone (MEK); Carbon disulfide; Chloroethane; Chloromethane
1,2-Dibromo-3-chloropropane; Dichlorodifluoromethane; 1,4-Dioxane; 2-Hexanone
Naphthalene; 4-Methyl-2-pentanone (MIBK); Trichlorofluoromethane

	Leachate Aqueous/Meoh	Soil/Sediment
MS/MSD Recovery Limits	70-130	70-130
MS/MSD RPD Limits (IAL/DKQP)	30/20	30/30

Column used to flag recovery and RPD values that did not meet criteria
* Values outside of QC limits
$ Values outside of NJ DKQP limits
NC Not calculable

E15-04336 0031

VOLATILE METHOD BLANK SUMMARY

Lab File ID: F1091.D

Instrument ID: MSD_F

Date Analyzed: 05/28/2015

Time Analyzed: 17:09

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS & MSD:

Client ID	Lab Sample ID	Date Analyzed	Time Analyzed
SS-2/1.5-2	04271-002DUP	05/28/2015	17:40
SS-3/1.5-2	04271-003	05/28/2015	18:10
LCS-50PPB	LCSS150528-01	05/28/2015	18:40
LCSD-50PPB	LCSDS150528-01	05/28/2015	19:11
15-070	04336-001	05/28/2015	20:11
SB-3_(3-3.5)/3	04257-004	05/28/2015	21:12
SB-6_(1-1.5)/1	04257-007	05/28/2015	21:43
SB-7_(1-1.5)/1	04257-008	05/28/2015	22:13
SB-10_(2.5-3)/	04257-011	05/28/2015	22:43

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

Lab File ID: F0843.D

Inst ID: MSD_F

BFB Injection Date: 05/14/2015

BFB Injection Time: 10:29

m/z	Ion Abudance Criteria	%Relative Abundance			
50	15 - 40.0% of mass 95	15.5			
75	30.0 - 60.0% of mass 95	47.1			
95	Base peak, 100% relative abundance	100.0			
96	5.0 - 9.0% of mass 95	7.0			
173	Less than 2.0% of mass 174	0.5	(	0.6	)1
174	Great than 50.0% of mass 95	81.2			
175	5.0 - 9.0% of mass 174	5.7	(	7.0	)1
176	95.0 - 101.0% of mass 174	78.5	(	96.7	)1
177	5.0 - 9.0% of mass 176	5.2	(	6.6	)2
	1-Value is % mass 174	2-Value is % mass 176			

This check applies to the following SAMPLES, MS, MSD, BLANKS and STANDARDS:

Client ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
ICC2	ICC2	F0845.D	05/14/2015	11:49
ICC5	ICC5	F0846.D	05/14/2015	12:23
ICC20	ICC20	F0847.D	05/14/2015	13:16
ICC1	ICC1	F0848.D	05/14/2015	13:46
ICC100	ICC100	F0849.D	05/14/2015	14:20
ICC200	ICC200	F0850.D	05/14/2015	14:53
ICC150	ICC150	F0851.D	05/14/2015	15:23
ICV100	ICV100	F0853.D	05/14/2015	16:24

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

Lab File ID: F1088.D

BFB Injection Date: 05/28/2015

Inst ID: MSD_F

BFB Injection Time: 15:38

m/z	Ion Abudance Criteria	%Relative Abundance			
50	15 - 40.0% of mass 95	15.7			
75	30.0 - 60.0% of mass 95	46.8			
95	Base peak, 100% relative abundance	100.0			
96	5.0 - 9.0% of mass 95	6.8			
173	Less than 2.0% of mass 174	0.5	(	0.6	)1
174	Great than 50.0% of mass 95	87.2			
175	5.0 - 9.0% of mass 174	6.2	(	7.1	)1
176	95.0 - 101.0% of mass 174	84.7	(	97.1	)1
177	5.0 - 9.0% of mass 176	5.5	(	6.5	)2
	1-Value is % mass 174	2-Value is % mass 176			

This check applies to the following SAMPLES, MS, MSD, BLANKS and STANDARDS:

Client ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
CCV100	CCV100	F1089.D	05/28/2015	16:08
BLKS150528-01	BLKS150528-01	F1091.D	05/28/2015	17:09
SS-2/1.5-2	04271-002DUP	F1092.D	05/28/2015	17:40
SS-3/1.5-2	04271-003	F1093.D	05/28/2015	18:10
LCS-50PPB	LCSS150528-01	F1094.D	05/28/2015	18:40
LCSD-50PPB	LCSDS150528-01	F1095.D	05/28/2015	19:11
15-070	04336-001	F1097.D	05/28/2015	20:11
SB-3_(3-3.5)/3	04257-004	F1099.D	05/28/2015	21:12
SB-6_(1-1.5)/1	04257-007	F1100.D	05/28/2015	21:43
SB-7_(1-1.5)/1	04257-008	F1101.D	05/28/2015	22:13
SB-10_(2.5-3)/	04257-011	F1102.D	05/28/2015	22:43

Response Factor Report MSD_F

Method Path : C:\MSDCHEM\1\METHODS\
Method File : FS051415.M
Title : VOLATILE ORGANICS BY EPA METHOD 8260C
Last Update : Mon May 18 11:50:42 2015
Response Via : Initial Calibration

MXF 5/18/15

K.C 5/18/15

Calibration Files
1 =F0848.D 2 =F0845.D 5 =F0846.D
20 =F0847.D 100 =F0849.D 150 =F0851.D 200 =F0850.D

		Compound	1	2	5	20	100	150	200	Avg	%RSD
1)	I	Pentafluorobenzene	ISTD								
2)	T	Dichlorodifluorom	0.453	0.466	0.443	0.564	0.528	0.503	0.504	0.495	8.79
3)	P	Chloromethane	0.527	0.492	0.473	0.492	0.438	0.395	0.398	0.459	10.98
4)	C	Vinyl chloride	0.573	0.534	0.500	0.577	0.551	0.486	0.493	0.531	7.22
5)	T	Bromomethane	0.470	0.453	0.445	0.494	0.398	0.337	0.313	0.416	16.52
6)	T	Chloroethane	0.368	0.346	0.337	0.359	0.298	0.251	0.240	0.314	16.58
7)	T	Trichlorofluorome	0.645	0.736	0.674	0.824	0.758	0.659	0.670	0.709	9.22
8)	T	Acrolein	0.048	0.050	0.051	0.050	0.039	0.036	0.033	0.044	17.67
9)	MC	1,1-Dichloroethen	0.713	0.609	0.539	0.675	0.608	0.520	0.518	0.598	12.85
10)	T	Acetone			0.135	0.136	0.129	0.104	0.106	0.122	12.69
11)	T	Carbon disulfide	1.611	1.588	1.424	1.800	1.627	1.399	1.401	1.550	9.68
12)	T	Vinyl acetate	1.514	1.553	1.340	1.317	1.334	1.205	1.223	1.355	9.83
13)	T	Methylene chlorid		0.703	0.663	0.668	0.552	0.470	0.472	0.588	17.67
14)	T	Acrylonitrile	0.158	0.154	0.167	0.158	0.148	0.141	0.134	0.152	7.42
15)	T	tert-Butyl alcoho		0.053	0.050	0.050	0.044	0.038	0.039	0.046	13.60
16)	T	trans-1,2-Dichlor	0.780	0.774	0.666	0.671	0.701	0.664	0.679	0.705	7.19
17)	T	Methyl tert-butyl	1.893	1.947	1.645	1.574	1.585	1.515	1.537	1.671	10.52
18)	P	1,1-Dichloroethan	1.257	1.272	1.064	1.041	1.061	0.993	1.006	1.099	10.55
19)	T	Diisopropyl ether	1.885	1.923	1.697	1.721	1.715	1.562	1.581	1.726	7.94
20)	T	cis-1,2-Dichloroe	0.768	0.811	0.685	0.665	0.712	0.683	0.692	0.717	7.39
21)	T	2,2-Dichloropropa	0.615	0.582	0.535	0.563	0.524	0.493	0.484	0.542	8.81
22)	T	2-Butanone (MEK)		0.289	0.241	0.256	0.262	0.228	0.233	0.252	8.93
23)	T	Bromochloromethan	0.396	0.345	0.330	0.308	0.317	0.303	0.306	0.329	10.04
25)	C	Chloroform	1.274	1.279	1.067	1.011	1.034	0.969	0.979	1.087	12.26
26)	T	1,1,1-Trichloroet	0.728	0.704	0.670	0.799	0.817	0.775	0.788	0.754	7.24
27)	T	Carbon tetrachlor	0.600	0.642	0.609	0.750	0.854	0.878	0.878	0.745	17.12
28)	T	1,1-Dichloroprope	0.863	0.768	0.751	0.883	0.954	0.888	0.909	0.859	8.61
29)	T	1,2-Dichloroethan	0.867	0.875	0.758	0.695	0.698	0.621	0.632	0.735	14.04
30)	S	1,2-Dichloroethan	0.457	0.456	0.447	0.428	0.415	0.400	0.400	0.429	5.79
31)	I	1,4-Difluorobenzene	ISTD								
32)	M	Benzene	2.072	2.063	1.772	1.835	1.953	1.807	1.862	1.909	6.39
33)	M	Trichloroethene	0.514	0.478	0.417	0.449	0.504	0.471	0.492	0.475	7.01
34)	C	1,2-Dichloropropa	0.463	0.478	0.408	0.417	0.442	0.406	0.423	0.434	6.47
35)	T	Dibromomethane	0.286	0.273	0.241	0.230	0.249	0.228	0.237	0.249	8.88
36)	T	1,4-Dioxane	0.003	0.003	0.004	0.003	0.003	0.003	0.003	0.003	10.63
37)	T	Bromodichlorometh	0.496	0.511	0.434	0.471	0.547	0.509	0.533	0.500	7.58
38)	T	2-Chloroethyl vin	0.255	0.244	0.193	0.187	0.219	0.198	0.210	0.215	12.07
39)	T	cis-1,3-Dichlorop	0.591	0.601	0.517	0.594	0.695	0.648	0.679	0.618	9.87
40)	T	4-Methyl-2-pentan	0.372	0.364	0.294	0.313	0.351	0.305	0.319	0.331	9.25
41)	S	Toluene-d8	1.155	1.165	1.159	1.206	1.204	1.177	1.188	1.179	1.77
42)	MC	Toluene	1.272	1.245	1.050	1.148	1.232	1.143	1.203	1.185	6.44
43)	T	trans-1,3-Dichlor	0.502	0.515	0.475	0.501	0.587	0.539	0.573	0.527	7.79
44)	T	1,1,2-Trichloroet	0.336	0.328	0.273	0.277	0.296	0.271	0.287	0.296	8.93
45)	T	Tetrachloroethene	0.561	0.484	0.528	0.545	0.594	0.553	0.584	0.550	6.66
46)	T	1,3-Dichloropropa	0.699	0.674	0.550	0.596	0.633	0.575	0.610	0.620	8.59
47)	T	2-Hexanone	0.298	0.290	0.211	0.232	0.261	0.223	0.236	0.250	13.50
48)	T	Dibromochlorometh	0.352	0.368	0.335	0.385	0.419	0.398	0.423	0.383	8.66
49)	T	1,2-Dibromoethane	0.372	0.376	0.308	0.323	0.355	0.324	0.341	0.343	7.59
50)	I	Chlorobenzene-d5	ISTD								
51)	MP	Chlorobenzene	1.676	1.697	1.389	1.365	1.438	1.351	1.401	1.474	10.04
52)	T	1,1,1,2-Tetrachlo	0.455	0.482	0.425	0.445	0.508	0.489	0.507	0.473	6.79

53)	C	Ethylbenzene	2.302	2.299	2.075	2.314	2.458	2.279	2.380	2.301	5.09
54)	T	m,p-Xylene	0.904	0.972	0.865	0.956	1.044	0.962	0.972	0.954	5.94
55)	T	o-Xylene	0.813	0.911	0.807	0.904	0.994	0.937	0.957	0.903	7.80
56)	T	Styrene	1.378	1.503	1.318	1.493	1.641	1.531	1.589	1.493	7.55
57)	P	Bromoform	0.284	0.269	0.235	0.228	0.272	0.256	0.268	0.259	7.93
58)	T	Isopropylbenzene	2.386	2.024	2.461	2.413	2.622	2.461	2.535	2.415	7.84
59)	S	Bromofluorobenzen	0.500	0.505	0.498	0.505	0.492	0.481	0.480	0.494	2.13
60)	P	1,1,2,2-Tetrachlo	0.612	0.643	0.525	0.498	0.528	0.480	0.493	0.540	11.66
61)	T	Bromobenzene	0.728	0.702	0.587	0.587	0.620	0.579	0.604	0.630	9.57
62)	T	1,2,3-Trichloropr	0.533	0.480	0.461	0.435	0.441	0.394	0.405	0.450	10.51
63)	T	n-Propylbenzene	2.819	2.711	2.438	2.855	2.966	2.727	2.794	2.758	5.98
64)	T	2-Chlorotoluene	1.811	1.787	1.581	1.646	1.699	1.595	1.628	1.678	5.43
65)	T	1,3,5-Trimethylbe	1.944	2.008	1.882	2.110	2.317	2.159	2.202	2.089	7.33
66)	T	4-Chlorotoluene	2.244	2.265	1.907	1.951	2.047	1.887	1.937	2.034	7.82
67)	T	tert-Butylbenzene	1.723	1.771	1.657	1.823	1.997	1.911	1.974	1.837	7.02
68)	T	1,2,4-Trimethylbe	2.026	2.177	1.960	2.152	2.225	2.085	2.148	2.110	4.37
69)	T	sec-Butylbenzene	2.492	2.449	2.335	2.805	3.005	2.818	2.853	2.680	9.37
70)	T	1,3-Dichlorobenze	1.448	1.444	1.241	1.262	1.279	1.201	1.229	1.301	7.86
71)	T	4-Isopropyltoluen	2.451	2.466	2.344	2.476	2.635	2.500	2.517	2.484	3.50
72)	T	1,4-Dichlorobenze	1.455	1.440	1.260	1.263	1.280	1.186	1.226	1.301	8.02
73)	T	n-Butylbenzene	1.036	1.082	1.114	1.233	1.316	1.210	1.217	1.172	8.35
74)	T	1,2-Dichlorobenze	1.366	1.241	1.197	1.185	1.238	1.150	1.177	1.222	5.85
75)	T	1,2-Dibromo-3-chl	0.077	0.078	0.065	0.069	0.082	0.076	0.077	0.075	7.59
76)	T	1,2,4-Trichlorobe	1.102	0.958	0.827	0.836	0.898	0.861	0.857	0.906	10.75
77)	T	Hexachlorobutadie	0.506	0.439	0.400	0.456	0.460	0.430	0.421	0.445	7.70
78)	T	Naphthalene	1.901	1.615	1.550	1.701	1.894	1.824	1.814	1.757	7.83
79)	T	1,2,3-Trichlorobe	1.038	0.893	0.789	0.769	0.810	0.773	0.768	0.834	11.98
80)	T	1,1,2-Trichloro-1	0.356	0.305	0.326	0.420	0.431	0.370	0.367	0.368	12.43
81)	T	Methyl acetate			0.239	0.251	0.226	0.185	0.188	0.218	13.74
82)	T	Cyclohexane		0.629	0.603	0.771	0.770	0.715	0.717	0.701	10.05
83)	T	Methylcyclohexane	0.543	0.502	0.599	0.642	0.673	0.610	0.615	0.598	9.72

(#) = Out of Range ### Number of calibration levels exceeded format ###

FS051415.M Mon May 18 14:38:13 2015 RP1

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\05-14-15\
Data File : F0853.D
Acq On : 14 May 2015 16:24
Operator : XING
Sample : ICV100,ICV100,S,5g,0
Misc :
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 18 14:55:36 2015
Quant Method : C:\MSDCHEM\1\METHODS\FS051415.M
Quant Title : VOLATILE ORGANICS BY EPA METHOD 8260C
QLast Update : Mon May 18 11:50:42 2015
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene	1.000	1.000	0.0	102	0.00
2	T	Dichlorodifluoromethane	0.495	0.497	-0.4	96	0.00
3	P	Chloromethane	0.459	0.399	13.1	92	0.00
4	C	Vinyl chloride	0.531	0.493	7.2	91	0.00
5	T	Bromomethane	0.416	0.356	14.4	91	0.00
6	T	Chloroethane	0.314	0.257	18.2	88	0.00
7	T	Trichlorofluoromethane	0.709	0.685	3.4	92	0.00
8	T	Acrolein	0.044	0.037	15.9	97	0.00
9	MC	1,1-Dichloroethene	0.598	0.529	11.5	88	0.00
10	T	Acetone	0.122	0.119	2.5	94	0.00
11	T	Carbon disulfide	1.550	1.427	7.9	89	0.00
12	T	Vinyl acetate	1.355	1.254	7.5	95	0.00
13	T	Methylene chloride	0.588	0.486	17.3	89	0.00
14	T	Acrylonitrile	0.152	0.151	0.7	104	0.00
15	T	tert-Butyl alcohol (TBA)	0.046	0.043	6.5	98	0.00
16	T	trans-1,2-Dichloroethene	0.705	0.665	5.7	96	0.01
17	T	Methyl tert-butyl ether (MT	1.671	1.539	7.9	99	0.00
18	P	1,1-Dichloroethane	1.099	0.995	9.5	95	0.01
19	T	Diisopropyl ether (DIPE)	1.726	1.593	7.7	94	0.00
20	T	cis-1,2-Dichloroethene	0.717	0.676	5.7	97	0.00
21	T	2,2-Dichloropropane	0.542	0.507	6.5	98	0.00
22	T	2-Butanone (MEK)	0.252	0.253	-0.4	98	0.00
23	T	Bromochloromethane	0.329	0.302	8.2	97	0.00
25	C	Chloroform	1.087	0.974	10.4	96	0.00
26	T	1,1,1-Trichloroethane	0.754	0.785	-4.1	98	0.01
27	T	Carbon tetrachloride	0.745	0.793	-6.4	94	0.00
28	T	1,1-Dichloropropene	0.859	0.884	-2.9	94	0.00
29	T	1,2-Dichloroethane (EDC)	0.735	0.642	12.7	93	0.01
30	S	1,2-Dichloroethane-d4	0.429	0.405	5.6	99	0.00
31	I	1,4-Difluorobenzene	1.000	1.000	0.0	103	0.00
32	M	Benzene	1.909	1.792	6.1	94	0.00
33	M	Trichloroethene	0.475	0.461	2.9	94	0.00
34	C	1,2-Dichloropropane	0.434	0.405	6.7	94	0.00
35	T	Dibromomethane	0.249	0.233	6.4	96	0.00
36	T	1,4-Dioxane	0.003	0.003	0.0	98	0.00
37	T	Bromodichloromethane	0.500	0.500	0.0	94	0.00
38	T	2-Chloroethyl vinyl ether	0.215	0.203	5.6	95	0.00
39	T	cis-1,3-Dichloropropene	0.618	0.641	-3.7	95	0.00
40	T	4-Methyl-2-pentanone (MIBK)	0.331	0.332	-0.3	97	0.00
41	S	Toluene-d8	1.179	1.181	-0.2	101	0.00
42	MC	Toluene	1.185	1.133	4.4	95	0.00
43	T	trans-1,3-Dichloropropene	0.527	0.542	-2.8	95	0.00
44	T	1,1,2-Trichloroethane	0.296	0.277	6.4	96	0.00
45	T	Tetrachloroethene	0.550	0.541	1.6	94	0.00
46	T	1,3-Dichloropropane	0.620	0.586	5.5	95	0.00

47	T	2-Hexanone	0.250	0.246	1.6	97	0.00
48	T	Dibromochloromethane	0.383	0.391	-2.1	96	0.00
49	T	1,2-Dibromoethane (EDB)	0.343	0.334	2.6	97	0.00
50	I	Chlorobenzene-d5	1.000	1.000	0.0	101	0.00
51	MP	Chlorobenzene	1.474	1.342	9.0	94	0.00
52	T	1,1,1,2-Tetrachloroethane	0.473	0.477	-0.8	95	0.00
53	C	Ethylbenzene	2.301	2.253	2.1	93	0.00
54	T	m,p-Xylene	0.954	0.956	-0.2	92	0.00
55	T	o-Xylene	0.903	0.918	-1.7	93	0.00
56	T	Styrene	1.493	1.503	-0.7	92	0.00
57	P	Bromoform	0.259	0.257	0.8	95	0.00
58	T	Isopropylbenzene	2.415	2.422	-0.3	93	0.00
59	S	Bromofluorobenzene	0.494	0.482	2.4	99	0.00
60	P	1,1,2,2-Tetrachloroethane	0.540	0.502	7.0	96	0.00
61	T	Bromobenzene	0.630	0.580	7.9	95	0.00
62	T	1,2,3-Trichloropropane	0.450	0.416	7.6	95	0.00
63	T	n-Propylbenzene	2.758	2.707	1.8	92	0.00
64	T	2-Chlorotoluene	1.678	1.572	6.3	93	0.00
65	T	1,3,5-Trimethylbenzene	2.089	2.118	-1.4	92	0.00
66	T	4-Chlorotoluene	2.034	1.878	7.7	93	0.00
67	T	tert-Butylbenzene	1.837	1.857	-1.1	94	0.00
68	T	1,2,4-Trimethylbenzene	2.110	2.058	2.5	93	0.00
69	T	sec-Butylbenzene	2.680	2.754	-2.8	93	0.00
70	T	1,3-Dichlorobenzene	1.301	1.178	9.5	93	0.00
71	T	4-Isopropyltoluene	2.484	2.426	2.3	93	0.00
72	T	1,4-Dichlorobenzene	1.301	1.179	9.4	93	0.00
73	T	n-Butylbenzene	1.172	1.192	-1.7	91	0.00
74	T	1,2-Dichlorobenzene	1.222	1.143	6.5	93	0.00
75	T	1,2-Dibromo-3-chloropropane	0.075	0.079	-5.3	97	0.00
76	T	1,2,4-Trichlorobenzene	0.906	0.856	5.5	96	-0.01
77	T	Hexachlorobutadiene	0.445	0.426	4.3	93	0.00
78	T	Naphthalene	1.757	1.849	-5.2	99	0.00
79	T	1,2,3-Trichlorobenzene	0.834	0.774	7.2	97	0.00
80	T	1,1,2-Trichloro-1,2,2-trifl	0.368	0.385	-4.6	90	0.00
81	T	Methyl acetate	0.218	0.206	5.5	92	0.00
82	T	Cyclohexane	0.701	0.718	-2.4	94	0.00
83	T	Methylcyclohexane	0.598	0.621	-3.8	93	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

FS051415.M Mon May 18 14:55:46 2015 RP1

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\05-28-15\
Data File : F1089.D
Acq On : 28 May 2015 16:08
Operator : XING
Sample : CCV100,CCV100,S,5g,0
Misc :
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 28 16:31:19 2015
Quant Method : C:\MSDCHEM\1\METHODS\FS051415.M
Quant Title : VOLATILE ORGANICS BY EPA METHOD 8260C
QLast Update : Mon May 18 11:50:42 2015
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	Pentafluorobenzene	1.000	1.000	0.0	78	0.00
2	T	Dichlorodifluoromethane	0.495	0.400	19.2	59	0.00
3	P	Chloromethane	0.459	0.428	6.8	77	0.01
4	C	Vinyl chloride	0.531	0.577	-8.7	82	0.00
5	T	Bromomethane	0.416	0.423	-1.7	83	0.01
6	T	Chloroethane	0.314	0.352	-12.1	93	0.01
7	T	Trichlorofluoromethane	0.709	0.836	-17.9	86	0.01
8	T	Acrolein	0.044	0.036	18.2	73	0.01
9	MC	1,1-Dichloroethene	0.598	0.671	-12.2	87	0.00
10	T	Acetone	0.122	0.145	-18.9	88	0.00
11	T	Carbon disulfide	1.550	1.836	-18.5	88	0.01
12	T	Vinyl acetate	1.355	1.354	0.1	80	0.01
13	T	Methylene chloride	0.588	0.650	-10.5	92	0.01
14	T	Acrylonitrile	0.152	0.178	-17.1	94	0.00
15	T	tert-Butyl alcohol (TBA)	0.046	0.048	-4.3	86	0.00
16	T	trans-1,2-Dichloroethene	0.705	0.687	2.6	77	0.01
17	T	Methyl tert-butyl ether (MT	1.671	1.595	4.5	79	0.00
18	P	1,1-Dichloroethane	1.099	1.081	1.6	80	0.01
19	T	Diisopropyl ether (DIPE)	1.726	1.792	-3.8	82	0.00
20	T	cis-1,2-Dichloroethene	0.717	0.694	3.2	76	0.00
21	T	2,2-Dichloropropane	0.542	0.511	5.7	76	0.00
22	T	2-Butanone (MEK)	0.252	0.269	-6.7	81	0.00
23	T	Bromochloromethane	0.329	0.306	7.0	76	0.00
25	C	Chloroform	1.087	1.049	3.5	80	0.00
26	T	1,1,1-Trichloroethane	0.754	0.825	-9.4	79	0.01
27	T	Carbon tetrachloride	0.745	0.869	-16.6	80	0.00
28	T	1,1-Dichloropropene	0.859	0.938	-9.2	77	0.00
29	T	1,2-Dichloroethane (EDC)	0.735	0.739	-0.5	83	0.01
30	S	1,2-Dichloroethane-d4	0.429	0.480	-11.9	91	0.00
31	I	1,4-Difluorobenzene	1.000	1.000	0.0	81	0.01
32	M	Benzene	1.909	1.866	2.3	78	0.00
33	M	Trichloroethene	0.475	0.465	2.1	75	0.00
34	C	1,2-Dichloropropane	0.434	0.437	-0.7	80	0.00
35	T	Dibromomethane	0.249	0.240	3.6	78	0.00
36	T	1,4-Dioxane	0.003	0.003	0.0	74	0.00
37	T	Bromodichloromethane	0.500	0.534	-6.8	79	0.00
38	T	2-Chloroethyl vinyl ether	0.215	0.199	7.4	74	0.00
39	T	cis-1,3-Dichloropropene	0.618	0.661	-7.0	77	0.00
40	T	4-Methyl-2-pentanone (MIBK)	0.331	0.345	-4.2	80	0.00
41	S	Toluene-d8	1.179	1.279	-8.5	87	0.00
42	MC	Toluene	1.185	1.156	2.4	76	0.00
43	T	trans-1,3-Dichloropropene	0.527	0.572	-8.5	79	0.00
44	T	1,1,2-Trichloroethane	0.296	0.287	3.0	79	0.01
45	T	Tetrachloroethene	0.550	0.541	1.6	74	0.00
46	T	1,3-Dichloropropane	0.620	0.625	-0.8	80	0.00

47	T	2-Hexanone	0.250	0.256	-2.4	80	0.00
48	T	Dibromochloromethane	0.383	0.402	-5.0	78	0.00
49	T	1,2-Dibromoethane (EDB)	0.343	0.336	2.0	77	0.00
50	I	Chlorobenzene-d5	1.000	1.000	0.0	90	0.00
51	MP	Chlorobenzene	1.474	1.230	16.6	77	0.00
52	T	1,1,1,2-Tetrachloroethane	0.473	0.443	6.3	78	0.01
53	C	Ethylbenzene	2.301	2.106	8.5	77	0.00
54	T	m,p-Xylene	0.954	0.899	5.8	77	0.00
55	T	o-Xylene	0.903	0.865	4.2	78	0.00
56	T	Styrene	1.493	1.433	4.0	78	0.00
57	P	Bromoform	0.259	0.247	4.6	82	0.00
58	T	Isopropylbenzene	2.415	2.265	6.2	78	0.00
59	S	Bromofluorobenzene	0.494	0.532	-7.7	97	0.00
60	P	1,1,2,2-Tetrachloroethane	0.540	0.486	10.0	83	0.00
61	T	Bromobenzene	0.630	0.544	13.7	79	0.00
62	T	1,2,3-Trichloropropane	0.450	0.409	9.1	83	0.00
63	T	n-Propylbenzene	2.758	2.611	5.3	79	0.00
64	T	2-Chlorotoluene	1.678	1.522	9.3	81	0.00
65	T	1,3,5-Trimethylbenzene	2.089	2.027	3.0	79	0.00
66	T	4-Chlorotoluene	2.034	1.844	9.3	81	0.00
67	T	tert-Butylbenzene	1.837	1.725	6.1	78	0.00
68	T	1,2,4-Trimethylbenzene	2.110	1.987	5.8	80	0.00
69	T	sec-Butylbenzene	2.680	2.614	2.5	78	0.00
70	T	1,3-Dichlorobenzene	1.301	1.128	13.3	79	0.00
71	T	4-Isopropyltoluene	2.484	2.299	7.4	78	0.00
72	T	1,4-Dichlorobenzene	1.301	1.124	13.6	79	0.00
73	T	n-Butylbenzene	1.172	1.174	-0.2	80	0.00
74	T	1,2-Dichlorobenzene	1.222	1.108	9.3	80	0.00
75	T	1,2-Dibromo-3-chloropropane	0.075	0.075	0.0	82	0.00
76	T	1,2,4-Trichlorobenzene	0.906	0.809	10.7	81	-0.01
77	T	Hexachlorobutadiene	0.445	0.419	5.8	82	0.00
78	T	Naphthalene	1.757	1.698	3.4	81	0.00
79	T	1,2,3-Trichlorobenzene	0.834	0.738	11.5	82	0.00
80	T	1,1,2-Trichloro-1,2,2-trifl	0.368	0.437	-18.8	91	0.01
81	T	Methyl acetate	0.218	0.235	-7.8	94	0.00
82	T	Cyclohexane	0.701	0.694	1.0	81	0.00
83	T	Methylcyclohexane	0.598	0.608	-1.7	81	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

FS051415.M Thu May 28 16:31:33 2015 RP1

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): F0849.D

Instrument ID: MSD_F

Date Analyzed: 05/14/2015

Time Analyzed: 14:20

	50UG/L	IS1 AREA	#	RT	#	IS2 AREA	#	RT	#	IS3 AREA	#	RT	#
	12 HOUR STD	417908		6.06		561317		6.87		535522		10.22	
	UPPER LIMIT	835816		6.56		1122634		7.37		1071044		10.72	
	LOWER LIMIT	208954		5.56		280658.5		6.37		267761		9.72	
	LAB SAMPLE ID												
01	ICC2	368198		6.06		531384		6.88		485876		10.22	
02	ICC5	361269		6.06		518759		6.87		468057		10.22	
03	ICC20	376889		6.06		519896		6.88		494361		10.22	
04	ICC1	362861		6.06		521380		6.87		480851		10.22	
05	ICC200	444635		6.06		595479		6.87		573349		10.22	
06	ICC150	437370		6.06		594647		6.87		560427		10.22	
07	ICV100	424378		6.06		577228		6.87		540792		10.22	
08													
09													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													
21													
22													

IS1 = PENTAFLUOROBENZENE
IS2 = 1,4-DIFLUOROBENZENE
IS3 = CHLOROBENZENE-D5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): F1089.D

Instrument ID: MSD_F

Date Analyzed: 05/28/2015

Time Analyzed: 16:08

	50UG/L	IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
	12 HOUR STD	327806	6.06	456999	6.88	481510	10.22
	UPPER LIMIT	655612	6.56	913998	7.38	963020	10.72
	LOWER LIMIT	163903	5.56	228499.5	6.38	240755	9.72
	LAB SAMPLE ID						
01	BLKS150528-01	274738	6.06	432205	6.88	412732	10.22
02	04271-002DUP	82256*	6.06	138968*	6.88	157448*	10.22
03	04271-003	244230	6.06	396667	6.88	386180	10.22
04	LCSS150528-01	283337	6.06	411646	6.88	421701	10.22
05	LCSDS150528-01	296682	6.06	429197	6.88	436273	10.22
06	04336-001	258371	6.06	414558	6.88	433260	10.22
07	04257-004	218872	6.06	331781	6.88	247225	10.22
08	04257-007	241318	6.06	390040	6.88	388426	10.22
09	04257-008	205791	6.06	329567	6.88	288819	10.22
10	04257-011	205217	6.06	334521	6.88	255364	10.22
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							

IS1 = PENTAFLUOROBENZENE
IS2 = 1,4-DIFLUOROBENZENE
IS3 = CHLOROBENZENE-D5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

VOLATILE ORGANICS SAMPLE DATA

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\05-28-15\
Data File : F1097.D
Acq On : 28 May 2015 20:11
Operator : XING
Sample : 15-070,04336-001,XS,5.2g,0
Misc : S&S/POMPTON_LAKES,05/26/15,05/27/15,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 29 09:49:10 2015
Quant Method : C:\MSDCHEM\1\METHODS\FS051415.M
Quant Title : VOLATILE ORGANICS BY EPA METHOD 8260C
QLast Update : Mon May 18 11:50:42 2015
Response via : Initial Calibration

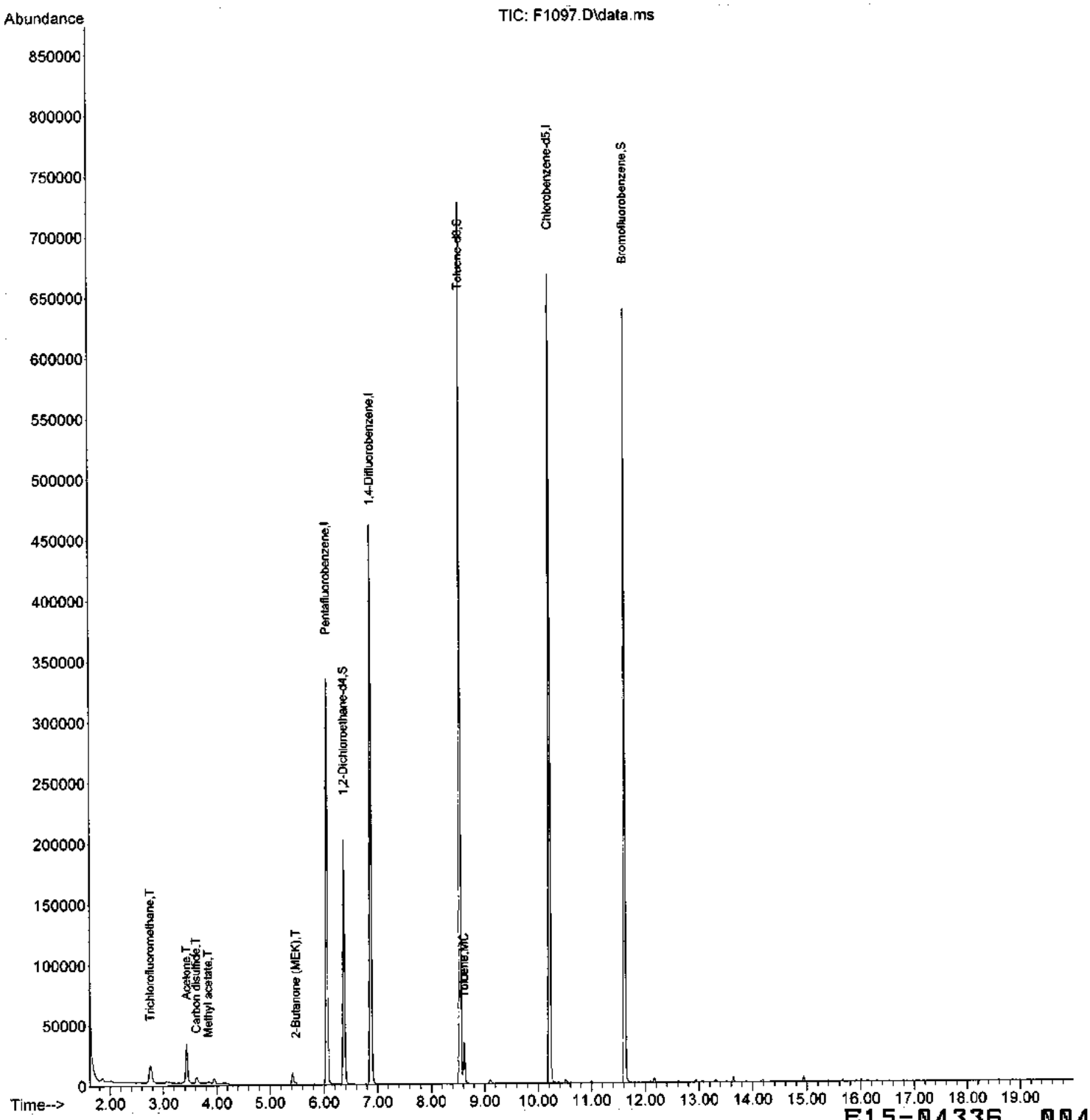
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Pentafluorobenzene	6.056	168	258371	50.00	UG		0.00
31) 1,4-Difluorobenzene	6.879	114	414558	50.00	UG		0.00
50) Chlorobenzene-d5	10.218	117	433260	50.00	UG		0.00
System Monitoring Compounds							
30) 1,2-Dichloroethane-d4	6.371	65	151678	68.41	UG		0.00
Spiked Amount 50.000	Range 37 - 158		Recovery = 136.82%				
41) Toluene-d8	8.543	98	511152	52.29	UG		0.00
Spiked Amount 50.000	Range 45 - 154		Recovery = 104.58%				
59) Bromofluorobenzene	11.619	95	222898	52.03	UG		0.00
Spiked Amount 50.000	Range 46 - 150		Recovery = 104.06%				
Target Compounds							Qvalue
7) Trichlorofluoromethane	2.757	101	27598	7.53	UG		100
10) Acetone	3.437	43	51582	81.88	UG	#	95
11) Carbon disulfide	3.620	76	7349	0.92	UG		100
22) 2-Butanone (MEK)	5.478	43	2461	1.89	UG		98
42) Toluene	8.614	92	16031	1.63	UG		98
81) Methyl acetate	3.843	43	2766	1.47	UG		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\05-28-15\
Data File : F1097.D
Acq On : 28 May 2015 20:11
Operator : XING
Sample : 15-070,04336-001,XS,5.2g,0
Misc : S&S/POMPTON_LAKES,05/26/15,05/27/15,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 29 09:49:10 2015
Quant Method : C:\MSDCHEM\1\METHODS\FS051415.M
Quant Title : VOLATILE ORGANICS BY EPA METHOD 8260C
QLast Update : Mon May 18 11:50:42 2015
Response via : Initial Calibration



LSC Area Percent Report

Data Path : C:\msdchem\1\DATA\05-28-15\
Data File : F1097.D
Acq On : 28 May 2015 20:11
Operator : XING
Sample : 15-070,04336-001,XS,5.2g,0
Misc : S&S/POMPTON_LAKES,05/26/15,05/27/15,1
ALS Vial : 10 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : C:\MSDCHEM\1\METHODS\FS051415.M
Title : VOLATILE ORGANICS BY EPA METHOD 8260C

Signal : TIC: F1097.

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	2.757	106	113	127	rVB	14938	62536	4.77%	1.055%
2	3.437	171	180	194	rVB	32848	89270	6.80%	1.506%
3	3.620	194	198	210	rBV2	5135	15318	1.17%	0.258%
4	5.417	365	375	379	rBV	9990	25322	1.93%	0.427%
5	6.056	431	438	461	rBV	335091	694017	52.89%	11.707%
6	6.371	461	469	485	rVB	202542	414718	31.61%	6.996%
7	6.868	513	518	535	rBV	462391	916429	69.84%	15.459%
8	8.543	677	683	687	rBV	728049	1312090	100.00%	22.133%
9	8.614	687	690	700	rVB	34907	69957	5.33%	1.180%
10	10.218	842	848	861	rBV	667908	1256802	95.79%	21.200%
11	11.619	979	986	1001	rVB	639337	1071814	81.69%	18.080%

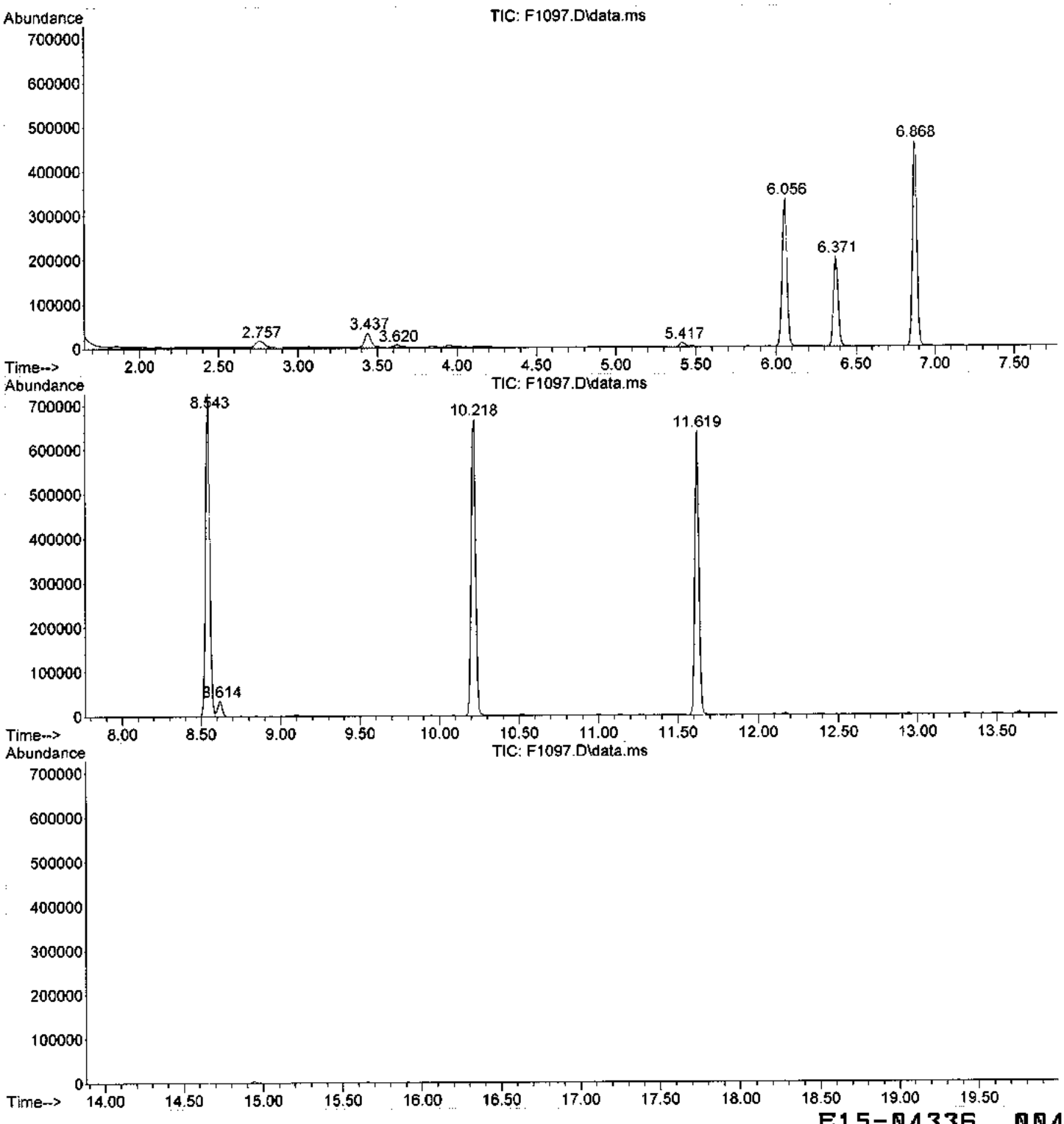
Sum of corrected areas: 5928273

LSC Report - Integrated Chromatogram

Data Path : C:\msdchem\1\DATA\05-28-15\
Data File : F1097.D
Acq On : 28 May 2015 20:11
Operator : XING
Sample : 15-070,04336-001,XS,5.2g,0
Misc : S&S/POMPTON_LAKES,05/26/15,05/27/15,1
ALS Vial : 10 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\FS051415.M
Quant Title : VOLATILE ORGANICS BY EPA METHOD 8260C

TIC Library : C:\Database\NIST05a.L
TIC Integration Parameters: LSCINT.P



INTEGRATED ANALYTICAL LABORATORIES

VOLATILE ORGANICS

Lab ID: BLKS150528-01
Client ID: BLKS150528-01
Date Received:
Date Analyzed: 05/28/2015
Data file: F1091.D

GC/MS Column: DB-624
Sample wt/vol: 5g
Matrix-Units: Soil-mg/Kg
Dilution Factor: 1
% Moisture: NA

Compound	Concentration	Q	RL	MDL
Dichlorodifluoromethane	ND		0.001	0.00044
Chloromethane	ND		0.001	0.000449
Vinyl chloride	ND		0.001	0.000426
Bromomethane	ND		0.001	0.00064
Chloroethane	ND		0.001	0.000507
Trichlorofluoromethane	ND		0.001	0.000813
Acrolein	ND		0.020	0.00142
1,1-Dichloroethene	ND		0.001	0.000488
Acetone	ND		0.005	0.000697
Carbon disulfide	ND		0.001	0.000572
Methylene chloride	ND		0.002	0.00198
Acrylonitrile	ND		0.020	0.00255
tert-Butyl alcohol (TBA)	ND		0.004	0.00153
trans-1,2-Dichloroethene	ND		0.001	0.000374
Methyl tert-butyl ether (MTBE)	ND		0.001	0.000373
1,1-Dichloroethane	ND		0.001	0.000269
cis-1,2-Dichloroethene	ND		0.001	0.000319
2-Butanone (MEK)	ND		0.002	0.000748
Bromochloromethane	ND		0.001	0.000422
Chloroform	ND		0.001	0.00042
1,1,1-Trichloroethane	ND		0.001	0.000437
Carbon tetrachloride	ND		0.001	0.000668
1,2-Dichloroethane (EDC)	ND		0.001	0.000348
Benzene	ND		0.001	0.000272
Trichloroethene	ND		0.001	0.000322
1,2-Dichloropropane	ND		0.001	0.000354
1,4-Dioxane	ND		0.200	0.020
Bromodichloromethane	ND		0.001	0.000418
cis-1,3-Dichloropropene	ND		0.001	0.0004
4-Methyl-2-pentanone (MIBK)	ND		0.001	0.000501

INTEGRATED ANALYTICAL LABORATORIES

VOLATILE ORGANICS

Lab ID: BLKS150528-01
Client ID: BLKS150528-01
Date Received:
Date Analyzed: 05/28/2015
Data file: F1091.D

GC/MS Column: DB-624
Sample wt/vol: 5g
Matrix-Units: Soil-mg/Kg
Dilution Factor: 1
% Moisture: NA

Compound	Concentration	Q	RL	MDL
Toluene	ND		0.001	0.000291
trans-1,3-Dichloropropene	ND		0.001	0.000305
1,1,2-Trichloroethane	ND		0.001	0.000235
Tetrachloroethene	ND		0.001	0.000495
2-Hexanone	ND		0.001	0.000578
Dibromochloromethane	ND		0.001	0.000295
1,2-Dibromoethane (EDB)	ND		0.001	0.000353
Chlorobenzene	ND		0.001	0.000336
Ethylbenzene	ND		0.001	0.000342
Total Xylenes	ND		0.002	0.000803
Styrene	ND		0.001	0.000358
Bromoform	ND		0.001	0.000461
Isopropylbenzene	ND		0.001	0.000438
1,1,2,2-Tetrachloroethane	ND		0.001	0.000392
1,3-Dichlorobenzene	ND		0.001	0.000471
1,4-Dichlorobenzene	ND		0.001	0.00053
1,2-Dichlorobenzene	ND		0.001	0.000482
1,2-Dibromo-3-chloropropane	ND		0.001	0.000639
1,2,4-Trichlorobenzene	ND		0.001	0.00044
1,2,3-Trichlorobenzene	ND		0.001	0.000573
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.001	0.000691
Methyl acetate	ND		0.005	0.000539
Cyclohexane	ND		0.002	0.000519
Methylcyclohexane	ND		0.001	0.000558
1,3-Dichloropropene (cis- and trans-)	ND		0.001	0.0004

Total Target Compounds (55): 0

D --- Dilution Performed
J --- Value Less than RL & greater than MDL
E --- Exceeds upper level of Calibration curve

B --- Compound detected in Blank
C --- Common laboratory contamination

INTEGRATED ANALYTICAL LABORATORIES

VOLATILE ORGANICS
Tentatively Identified Compounds

Lab ID: BLKS150528-01
Client ID: BLKS150528-01
Date Received:
Date Analyzed: 05/28/2015
Date File: F1091.D

GC/MS Column: DB-624
Sample wt/vol: 5g
Matrix-Units: Soil-mg/Kg
Dilution Factor: 1
% Moisture: NA

CAS #	Compound	Estimated Concentration	Q	Retention Time
	No peaks detected			

Total TICs = 0

D --- Dilution Performed

J --- Estimated concentration for TICs

N --- Presumptive evidence of a compound from the use of GC/MS NIST library search

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\05-28-15\
Data File : F1091.D
Acq On : 28 May 2015 17:09
Operator : XING
Sample : BLKS150528-01,BLKS150528-01,S,5g,0
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 28 17:31:13 2015
Quant Method : C:\MSDCHEM\1\METHODS\FS051415.M
Quant Title : VOLATILE ORGANICS BY EPA METHOD 8260C
QLast Update : Mon May 18 11:50:42 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene	6.057	168	274738	50.00	UG	0.00
31) 1,4-Difluorobenzene	6.879	114	432205	50.00	UG	0.01
50) Chlorobenzene-d5	10.219	117	412732	50.00	UG	0.00
System Monitoring Compounds						
30) 1,2-Dichloroethane-d4	6.371	65	155087	65.78	UG	0.00
Spiked Amount 50.000	Range 37 - 158		Recovery = 131.56%			
41) Toluene-d8	8.544	98	509063	49.95	UG	0.00
Spiked Amount 50.000	Range 45 - 154		Recovery = 99.90%			
59) Bromofluorobenzene	11.620	95	200650	49.17	UG	0.00
Spiked Amount 50.000	Range 46 - 150		Recovery = 98.34%			

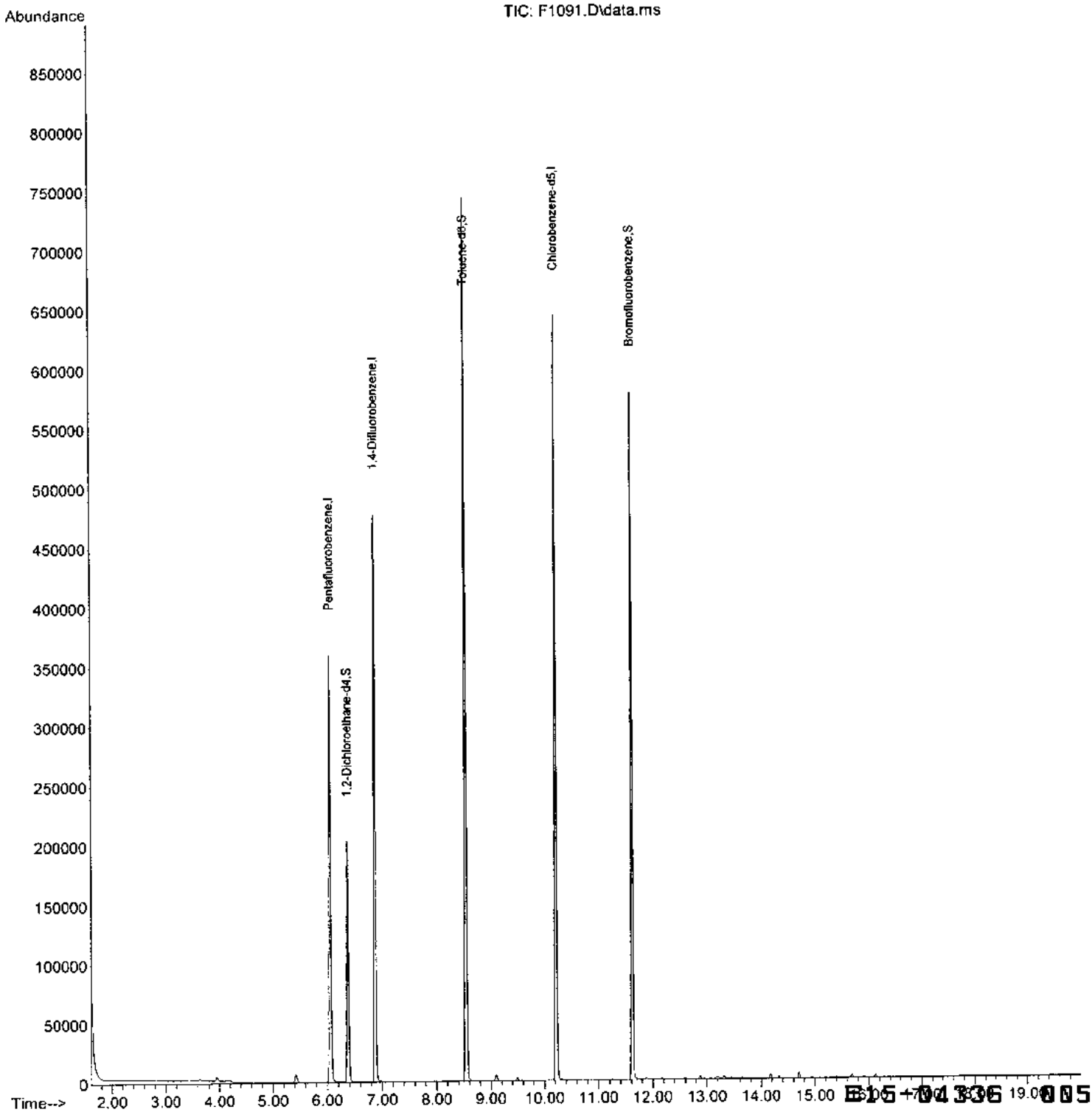
Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\05-28-15\
Data File : F1091.D
Acq On : 28 May 2015 17:09
Operator : XING
Sample : BLKS150528-01,BLKS150528-01,S,Sg,0
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 28 17:31:13 2015
Quant Method : C:\MSDCHEM\1\METHODS\FS051415.M
Quant Title : VOLATILE ORGANICS BY EPA METHOD 8260C
QLast Update : Mon May 18 11:50:42 2015
Response via : Initial Calibration



LSC Area Percent Report

Data Path : C:\msdchem\1\DATA\05-28-15\
Data File : F1091.D
Acq On : 28 May 2015 17:09
Operator : XING
Sample : BLKS150528-01,BLKS150528-01,S,5g,0
Misc :
ALS Vial : 4 Sample Multiplier: 1

Integration Parameters: LSCINT.P
Integrator: RTE
Smoothing : ON Filtering: 5
Sampling : 1 Min Area: 1 % of largest Peak
Start Thrs: 0.2 Max Peaks: 100
Stop Thrs : 0 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >
Peak separation: 5

Method : C:\MSDCHEM\1\METHODS\FS051415.M
Title : VOLATILE ORGANICS BY EPA METHOD 8260C

Signal : TIC: F1091.

peak #	R.T. min	first scan	max scan	last scan	PK TY	peak height	corr. area	corr. % max.	% of total
1	5.417	371	375	385	rBV	7247	18144	1.37%	0.323%
2	6.057	430	438	450	rBV	360075	736155	55.76%	13.105%
3	6.371	463	469	484	rVB	203373	422801	32.02%	7.527%
4	6.879	512	519	535	rBV	477460	957966	72.55%	17.053%
5	8.544	677	683	699	rBV	742833	1320335	100.00%	23.504%
6	10.219	841	848	862	rBV	643502	1193313	90.38%	21.243%
7	11.620	978	986	1001	rBV	578936	968713	73.37%	17.245%

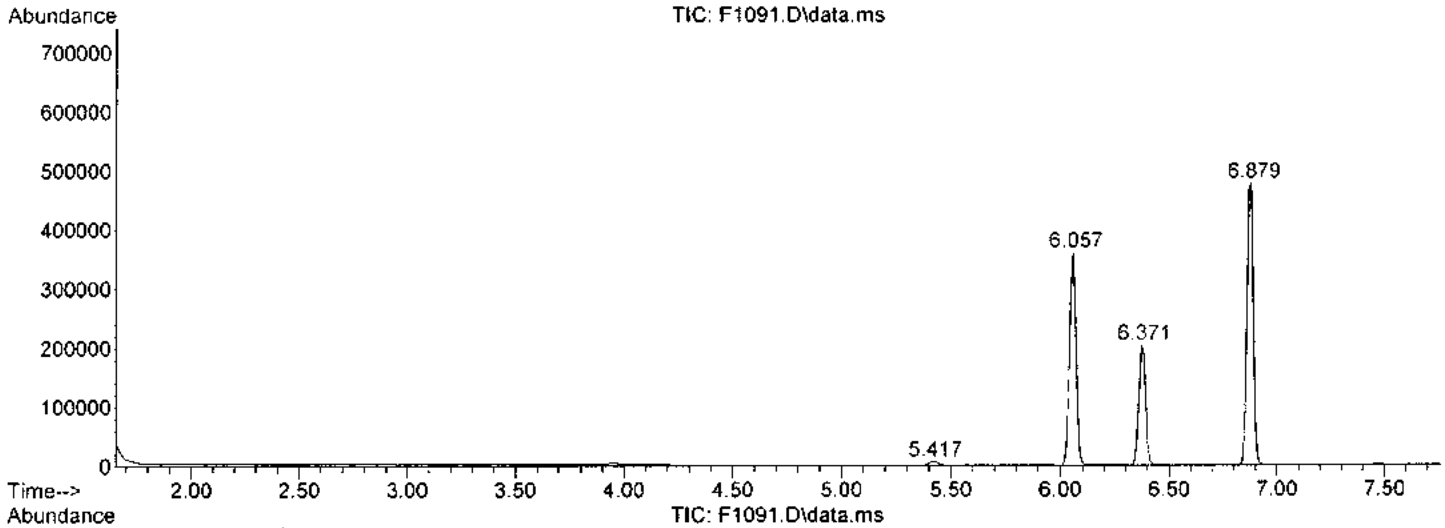
Sum of corrected areas: 5617427

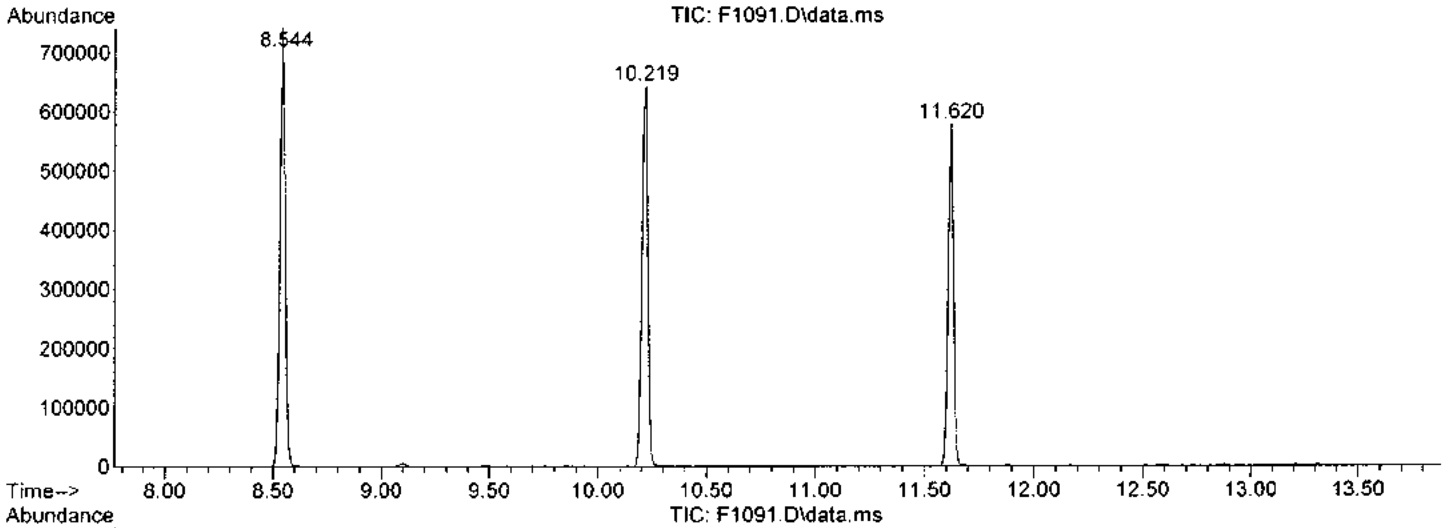
LSC Report - Integrated Chromatogram

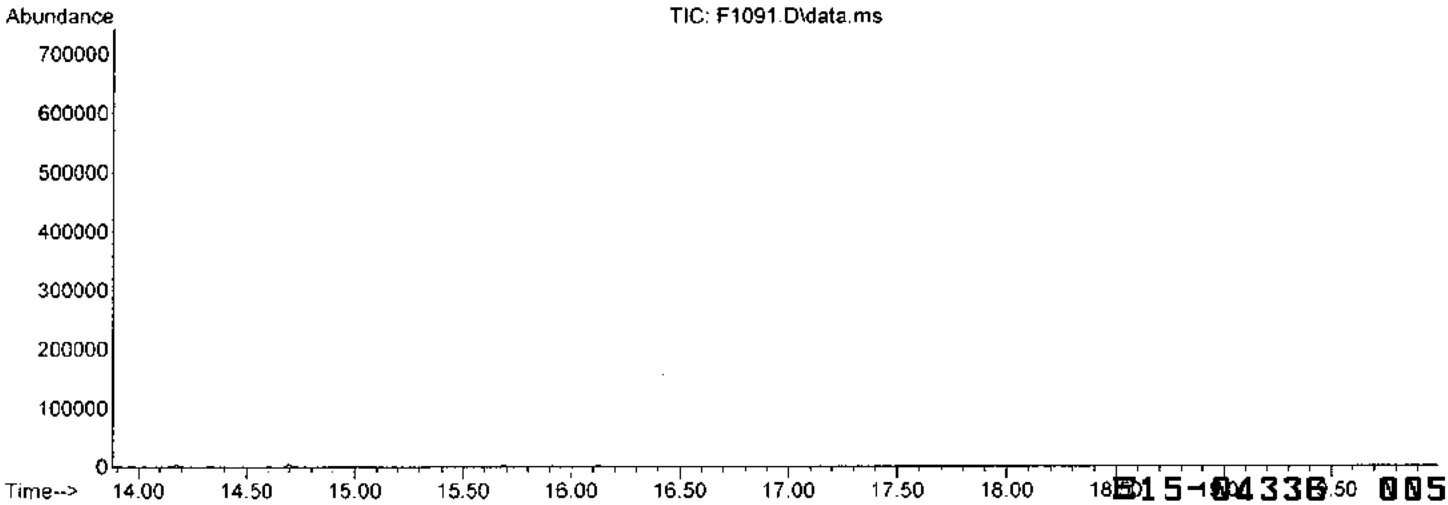
Data Path : C:\msdchem\1\DATA\05-28-15\
Data File : F1091.D
Acq On : 28 May 2015 17:09
Operator : XING
Sample : BLKS150528-01,BLKS150528-01,S,5g,0
Misc :
ALS Vial : 4 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\FS051415.M
Quant Title : VOLATILE ORGANICS BY EPA METHOD 8260C

TIC Library : C:\Database\NIST05a.L
TIC Integration Parameters: LSCINT.P







SEMI-VOLATILE ORGANICS

SEMI-VOLATILE ORGANICS QC SUMMARY

SEMIVOLATILE SURROGATE PERCENT RECOVERY SUMMARY

Date Analyzed: 05/28/2015

Lab Sample ID	Matrix	File ID	S1	#	S2	#	S3	#	S4	#	S5	#	S6	#
BLKS150527-03	SOIL	C5767.D	57		63		57		65		72		88	
LCSS150527-03	SOIL	C5768.D	63		70		69		76		77		96	
E15-04273-001MS	SOIL	C5769.D	56		63		62		67		69		77	
E15-04273-001MSD	SOIL	C5770.D	55		60		73		71		63		72	
E15-04224-002	SOIL	C5771.D	N/A		N/A		91		65		N/A		69	
E15-04273-001	SOIL	C5772.D	N/A		N/A		66		66		N/A		71	
E15-04273-004	SOIL	C5775.D	N/A		N/A		80		72		N/A		62	
E15-04273-005	SOIL	C5776.D	N/A		N/A		68		80		N/A		81	
E15-04273-006	SOIL	C5777.D	N/A		N/A		73		75		N/A		60	
E15-04273-008	SOIL	C5779.D	N/A		N/A		79		85		N/A		66	
E15-04273-009	SOIL	C5780.D	N/A		N/A		46		71		N/A		72	
E15-04273-011	SOIL	C5782.D	N/A		N/A		79		78		N/A		75	
E15-04319-001	SOIL	C5784.D	N/A		N/A		45		64		N/A		50	
E15-04140-002	SOIL	C5785.D	N/A		N/A		55		75		N/A		45	
E15-04336-001	SOIL	C5786.D	47		52		50		66		77		67	
E15-04273-001	SOIL	C5787.D	N/A		N/A		78		68		N/A		54	
E15-04273-002	SOIL	C5788.D	N/A		N/A		64		62		N/A		52	
E15-04273-003	SOIL	C5789.D	N/A		N/A		75		80		N/A		50	
E15-04273-007	SOIL	C5790.D	N/A		N/A		65		80		N/A		45	
E15-04273-010	SOIL	C5791.D	N/A		N/A		80		75		N/A		45	
E15-04273-012	SOIL	C5792.D	N/A		N/A		60		62		N/A		50	

	DKQPs		IAL	
	Aqueous	Soil	Aqueous/Leachate	Soil
S1 (2FP) = 2-Fluorophenol	15-110	30-130	45-104	24-101
S2 (PHL) = Phenol-d5	15-110	30-130	52-106	23-108
S3 (NBZ) = Nitrobenzene-d5	30-130	30-130	57-107	26-98
S4 (FBP) = 2-Fluorobiphenyl	30-130	30-130	57-126	34-96
S5 (TBP) = 2,4,6-Tribromophenol	15-110	30-130	30-147	32-112
S6 (TPH) = Terphenyl-d14	30-130	30-130	68-133	19-118

Column used to flag recovery values that did not meet criteria
* Values outside of QC limits
$ Values outside of NJ DKQP limits
D Surrogate diluted out
M Matrix interference
N/A Not applicable

INTEGRATED ANALYTICAL LABORATORIES

LCS ACCURACY REPORT

Lab ID: LCSS150527-03
Date Received: NA
Date Extracted: 05/27/2015
Date Analyzed: 05/28/2015
Data file: C5768.D

GC/MS Column: DB-5
Sample wt/vol: 15.00g
Matrix-Units: Soil-mg/Kg
% Moisture: NA
Dilution Factor: 1

Compound	Conc. Add	Conc. LCS	%Rec. LCS	#	Rec Limits IAL	Rec Limits DKQP
N-Nitrosodimethylamine	50.0	33.3	67	$	40-140	70-130
Pyridine	50.0	27.8	56		20-120	20-160
Benzaldehyde	50.0	5.4	11	$	10-110	20-160
Phenol	50.0	33.8	68		30-140	20-160
Aniline	50.0	35.9	72		40-140	70-130
Bis(2-chloroethyl) ether	50.0	34.9	70		40-140	70-130
2-Chlorophenol	50.0	35.2	70		30-140	20-160
1,3-Dichlorobenzene	50.0	36.7	73		40-140	70-130
1,4-Dichlorobenzene	50.0	33.3	67	$	40-140	70-130
Benzyl alcohol	50.0	34.5	69	$	40-140	70-130
1,2-Dichlorobenzene	50.0	37.0	74		40-140	70-130
2-Methylphenol	50.0	36.3	73		30-140	20-160
Bis(2-chloroisopropyl) ether	50.0	38.0	76		40-140	70-130
4-Methylphenol	50.0	37.5	75		30-140	70-130
N-Nitrosodi-n-propylamine	50.0	37.7	75		40-140	70-130
Acetophenone	50.0	35.1	70		40-140	70-130
3-Methylphenol	50.0	37.5	75		30-140	20-160
Hexachloroethane	50.0	34.2	68	$	40-140	70-130
Nitrobenzene	50.0	34.3	69	$	40-140	70-130
Isophorone	50.0	35.8	72		40-140	70-130
2-Nitrophenol	50.0	36.6	73		30-140	20-160
2,4-Dimethylphenol	50.0	33.7	67		30-140	20-160
Bis(2-chloroethoxy) methane	50.0	35.5	71		40-140	70-130
Benzoic acid	50.0	61.3	123		30-140	20-160
2,4-Dimethylaniline	50.0	48.6	97		40-140	70-130
2,4-Dichlorophenol	50.0	37.2	74		30-140	20-160
1,2,4-Trichlorobenzene	50.0	37.9	76		40-140	70-130
Naphthalene	50.0	37.0	74		40-140	70-130
4-Chloroaniline	50.0	39.0	78		40-140	70-130
Hexachlorobutadiene	50.0	37.1	74		40-140	70-130
Caprolactam	50.0	33.9	68	$	40-140	70-130
4-Chloro-3-methylphenol	50.0	35.8	72		30-140	20-160
2-Methylnaphthalene	50.0	38.8	78		40-140	70-130
Hexachlorocyclopentadiene	50.0	29.3	59		5-105	20-160
2,4,6-Trichlorophenol	50.0	39.1	78		30-140	20-160
2,4,5-Trichlorophenol	50.0	40.8	82		30-140	20-160
1,1'-Biphenyl	50.0	39.7	79		40-140	70-130
2-Chloronaphthalene	50.0	39.9	80		40-140	70-130
2-Nitroaniline	50.0	41.8	84		40-140	70-130
Dimethyl phthalate	50.0	39.6	79		40-140	70-130
2,6-Dinitrotoluene	50.0	45.8	92		40-140	70-130
Acenaphthylene	50.0	40.9	82		40-140	70-130
3-Nitroaniline	50.0	40.7	81		40-140	70-130
Acenaphthene	50.0	39.1	78		40-140	20-160
2,4-Dinitrophenol	50.0	50.1	100		5-105	20-160

E15-04336 0058

INTEGRATED ANALYTICAL LABORATORIES

LCS ACCURACY REPORT

Lab ID: LCSS150527-03
Date Received: NA
Date Extracted: 05/27/2015
Date Analyzed: 05/28/2015
Data file: C5768.D

GC/MS Column: DB-5
Sample wt/vol: 15.00g
Matrix-Units: Soil-mg/Kg
% Moisture: NA
Dilution Factor: 1

Compound	Conc. Add	Conc. LCS	%Rec. LCS	#	Rec Limits IAL	DKQP
4-Nitrophenol	50.0	36.3	73		30-140	20-160
2,4-Dinitrotoluene	50.0	44.2	88		40-140	70-130
Dibenzofuran	50.0	39.7	79		40-140	70-130
Diethyl phthalate	50.0	39.4	79		40-140	70-130
Fluorene	50.0	40.9	82		40-140	70-130
4-Chlorophenyl phenyl ether	50.0	41.7	83		40-140	70-130
4-Nitroaniline	50.0	37.5	75		40-140	70-130
1,2,4,5-Tetrachlorobenzene	50.0	20.2	40	$	40-140	70-130
2,3,4,6-Tetrachlorophenol	50.0	60.9	122		40-140	70-130
4,6-Dinitro-2-methylphenol	50.0	47.2	94		10-110	20-160
N-Nitrosodiphenylamine	50.0	42.9	86		40-140	70-130
1,2-Diphenylhydrazine	50.0	36.9	74		40-140	70-130
4-Bromophenyl phenyl ether	50.0	42.0	84		40-140	70-130
Hexachlorobenzene	50.0	39.4	79		40-140	70-130
Atrazine	50.0	32.0	64		20-120	20-160
Pentachlorophenol	50.0	35.1	70		30-140	20-160
Phenanthrene	50.0	38.8	78		40-140	70-130
Anthracene	50.0	39.4	79		40-140	70-130
Carbazole	50.0	38.7	77		40-140	70-130
Di-n-butyl phthalate	50.0	40.1	80		40-140	70-130
Fluoranthene	50.0	35.9	72		40-140	70-130
Benzidine	50.0	3.1	6	$	5-105	20-160
Pyrene	50.0	51.4	103		40-140	70-130
3,3'-Dimethylbenzidine	50.0	15.2	30		5-105	20-160
Butyl benzyl phthalate	50.0	45.3	91		40-140	70-130
3,3'-Dichlorobenzidine	50.0	41.6	83		40-140	70-130
Benzo[a]anthracene	50.0	40.4	81		40-140	70-130
Chrysene	50.0	41.1	82		40-140	70-130
Bis(2-ethylhexyl) phthalate	50.0	46.8	94		40-140	70-130
Di-n-octyl phthalate	50.0	56.4	113		40-140	70-130
Benzo[b]fluoranthene	50.0	51.4	103		40-140	70-130
Benzo[k]fluoranthene	50.0	39.7	79		40-140	70-130
Benzo[a]pyrene	50.0	45.6	91		40-140	70-130
Indeno[1,2,3-cd]pyrene	50.0	49.8	100		40-140	70-130
Dibenz[a,h]anthracene	50.0	50.3	101		40-140	70-130
Benzo[g,h,i]perylene	50.0	49.0	98		40-140	70-130

Column used to flag recovery values that did not meet criteria

* Values outside of QC limits

$ Values outside of NJ DKQP limits

NC Not calculable

E15-04336 0059

INTEGRATED ANALYTICAL LABORATORIES

MS/MSD ACCURACY REPORT

Lab ID: E15-04273-001
Date Received: NA
Date Extracted: 05/27/2015
Date Analyzed: 05/28/2015
MS Data file: C5769.D
MSD Data file: C5770.D

GC/MS Column: DB-5
Sample wt/vol: 15.00g
Matrix-Units: Soil-mg/Kg
% Moisture: NA
Dilution Factor: 1
Dilution Factor: 1

Compound	Conc. Add	Sample	Conc. MS	%Rec. MS	#	Conc. MSD	%Rec. MSD	#	% RPD	#	Rec/RPD limits IAL	DKQP
N-Nitrosodimethylamine	50.0	0.0	30.9	62	$	29.0	58	$	6		40-140/30	70-130/30
Pyridine	50.0	0.0	19.6	39		18.9	38		4		20-120/30	20-160/30
Benzaldehyde	50.0	0.0	20.3	41		17.6	35		14		10-110/30	20-160/30
Phenol	50.0	0.0	33.1	66		32.0	64		3		30-140/30	20-160/30
Aniline	50.0	0.0	31.7	63	$	31.0	62	$	2		40-140/30	70-130/30
Bis(2-chloroethyl) ether	50.0	0.0	34.4	69	$	34.5	69	$	0		40-140/30	70-130/30
2-Chlorophenol	50.0	0.0	32.9	66		33.4	67		2		30-140/30	20-160/30
1,3-Dichlorobenzene	50.0	0.0	35.5	71		34.4	69	$	3		40-140/30	70-130/30
1,4-Dichlorobenzene	50.0	0.0	34.4	69	$	33.3	67	$	3		40-140/30	70-130/30
Benzyl alcohol	50.0	0.0	35.6	71		33.9	68	$	5		40-140/30	70-130/30
1,2-Dichlorobenzene	50.0	0.0	35.7	71		36.3	73		2		40-140/30	70-130/30
2-Methylphenol	50.0	0.0	35.5	71		36.1	72		2		30-140/30	20-160/30
Bis(2-chloroisopropyl) ether	50.0	0.0	37.1	74		36.8	74		1		40-140/30	70-130/30
4-Methylphenol	50.0	0.0	35.5	71		36.2	72		2		30-140/30	70-130/30
N-Nitrosodi-n-propylamine	50.0	0.0	52.0	104		48.6	97		7		40-140/30	70-130/30
Acetophenone	50.0	0.0	54.4	109		51.1	102		6		40-140/30	70-130/30
3-Methylphenol	50.0	0.0	35.5	71		36.2	72		2		30-140/30	20-160/30
Hexachloroethane	50.0	0.0	35.8	72		31.2	62	$	14		40-140/30	70-130/30
Nitrobenzene	50.0	0.0	40.4	81		37.2	74		8		40-140/30	70-130/30
Isophorone	50.0	0.0	21.7	43	$	20.1	40	$	8		40-140/30	70-130/30
2-Nitrophenol	50.0	0.0	44.6	89		45.4	91		2		30-140/30	20-160/30
2,4-Dimethylphenol	50.0	0.0	45.1	90		47.7	95		6		30-140/30	20-160/30
Bis(2-chloroethoxy) methane	50.0	0.0	45.5	91		46.6	93		2		40-140/30	70-130/30
Benzoic acid	50.0	0.0	39.8	80		37.2	74		7		30-140/30	20-160/30
2,4-Dimethylaniline	50.0	0.0	46.4	93		44.0	88		5		40-140/30	70-130/30
2,4-Dichlorophenol	50.0	0.0	43.7	87		43.4	87		1		30-140/30	20-160/30
1,2,4-Trichlorobenzene	50.0	0.0	40.6	81		41.3	83		2		40-140/30	70-130/30
Naphthalene	50.0	40.1	103.5	127		94.1	108		10		40-140/30	70-130/30
4-Chloroaniline	50.0	0.0	38.7	77		42.9	86		10		40-140/30	70-130/30
Hexachlorobutadiene	50.0	0.0	34.1	68	$	36.3	73		6		40-140/30	70-130/30
Caprolactam	50.0	0.0	39.7	79		41.2	82		4		40-140/30	70-130/30
4-Chloro-3-methylphenol	50.0	0.0	56.9	114		63.5	127		11		30-140/30	20-160/30
2-Methylnaphthalene	50.0	193.9	220.6	53	$	214.5	41	$	3		40-140/30	70-130/30
Hexachlorocyclopentadiene	50.0	0.0	16.8	34		18.8	38		11		5-105/30	20-160/30
2,4,6-Trichlorophenol	50.0	0.0	31.0	62		34.8	70		12		30-140/30	20-160/30
2,4,5-Trichlorophenol	50.0	0.0	28.6	57		32.6	65		13		30-140/30	20-160/30
1,1'-Biphenyl	50.0	0.0	33.8	68	$	35.1	70		4		40-140/30	70-130/30
2-Chloronaphthalene	50.0	0.0	32.1	64	$	35.2	70		9		40-140/30	70-130/30
2-Nitroaniline	50.0	0.0	28.9	58	$	36.5	73		23		40-140/30	70-130/30
Dimethyl phthalate	50.0	0.0	27.6	55	$	30.2	60	$	9		40-140/30	70-130/30
2,6-Dinitrotoluene	50.0	0.0	31.3	63	$	33.1	66	$	6		40-140/30	70-130/30
Acenaphthylene	50.0	6.5	41.3	70		40.4	68	$	2		40-140/30	70-130/30
3-Nitroaniline	50.0	0.0	48.2	96		62.4	125		26		40-140/30	70-130/30
Acenaphthene	50.0	16.4	56.9	81		61.5	90		8		40-140/30	20-160/30
2,4-Dinitrophenol	50.0	0.0	40.9	82		36.7	73		11		5-105/30	20-160/30

INTEGRATED ANALYTICAL LABORATORIES

MS/MSD ACCURACY REPORT

Lab ID: E15-04273-001
Date Received: NA
Date Extracted: 05/27/2015
Date Analyzed: 05/28/2015
MS Data file: C5769.D
MSD Data file: C5770.D

GC/MS Column: DB-5
Sample wt/vol: 15.00g
Matrix-Units: Soil-mg/Kg
% Moisture: NA
Dilution Factor: 1
Dilution Factor: 1

Compound	Conc. Add	Sample	Conc. MS	%Rec. MS	#	Conc. MSD	%Rec. MSD	#	% RPD	#	Rec/RPD IAL Limits	Rec/RPD DKQP Limits
4-Nitrophenol	50.0	0.0	44.0	88		41.3	83		6		30-140/30	20-160/30
2,4-Dinitrotoluene	50.0	0.0	31.4	63	$	34.9	70		11		40-140/30	70-130/30
Dibenzofuran	50.0	0.0	50.6	101		53.0	106		5		40-140/30	70-130/30
Diethyl phthalate	50.0	0.0	30.8	62	$	34.2	68	$	10		40-140/30	70-130/30
Fluorene	50.0	50.6	78.7	56	$	78.4	56	$	0		40-140/30	70-130/30
4-Chlorophenyl phenyl ether	50.0	0.0	29.8	60	$	33.0	66	$	10		40-140/30	70-130/30
4-Nitroaniline	50.0	0.0	35.4	71		36.7	73		4		40-140/30	70-130/30
1,2,4,5-Tetrachlorobenzene	50.0	0.0	20.8	42	$	20.3	41	$	2		40-140/30	70-130/30
2,3,4,6-Tetrachlorophenol	50.0	0.0	37.5	75		44.5	89		17		40-140/30	70-130/30
4,6-Dinitro-2-methylphenol	50.0	0.0	8.1	16	$	8.7	17	$	7		10-110/30	20-160/30
N-Nitrosodiphenylamine	50.0	0.0	66.4	133	$	61.5	123		8		40-140/30	70-130/30
1,2-Diphenylhydrazine	50.0	0.0	38.0	76		34.0	68	$	11		40-140/30	70-130/30
4-Bromophenyl phenyl ether	50.0	0.0	42.7	85		42.7	85		0		40-140/30	70-130/30
Hexachlorobenzene	50.0	0.0	36.0	72		31.8	64	$	12		40-140/30	70-130/30
Atrazine	50.0	0.0	40.0	80		33.2	66		19		20-120/30	20-160/30
Pentachlorophenol	50.0	0.0	27.9	56		26.8	54		4		30-140/30	20-160/30
Phenanthrene	50.0	130.1	167.3	74		156.7	53	$	7		40-140/30	70-130/30
Anthracene	50.0	21.6	68.3	93		57.2	71		18		40-140/30	70-130/30
Carbazole	50.0	0.0	48.6	97		43.1	86		12		40-140/30	70-130/30
Di-n-butyl phthalate	50.0	0.0	44.0	88		43.8	88		0		40-140/30	70-130/30
Fluoranthene	50.0	34.3	79.7	91		67.1	66	$	17		40-140/30	70-130/30
Benzidine	50.0	0.0	47.1	94		39.1	78		19		5-105/30	20-160/30
Pyrene	50.0	40.8	87.4	93		77.0	72		13		40-140/30	70-130/30
3,3'-Dimethylbenzidine	50.0	0.0	27.8	56		27.1	54		3		5-105/30	20-160/30
Butyl benzyl phthalate	50.0	0.0	41.9	84		43.2	86		3		40-140/30	70-130/30
3,3'-Dichlorobenzidine	50.0	0.0	46.6	93		44.4	89		5		40-140/30	70-130/30
Benzo[a]anthracene	50.0	8.8	50.2	83		48.4	79		4		40-140/30	70-130/30
Chrysene	50.0	9.7	52.3	85		46.8	74		11		40-140/30	70-130/30
Bis(2-ethylhexyl) phthalate	50.0	0.0	46.4	93		43.2	86		7		40-140/30	70-130/30
Di-n-octyl phthalate	50.0	0.0	57.7	115		52.8	106		9		40-140/30	70-130/30
Benzo[b]fluoranthene	50.0	6.0	50.8	90		51.4	91		1		40-140/30	70-130/30
Benzo[k]fluoranthene	50.0	4.8	50.0	90		43.2	77		15		40-140/30	70-130/30
Benzo[a]pyrene	50.0	6.8	53.1	93		50.0	86		6		40-140/30	70-130/30
Indeno[1,2,3-cd]pyrene	50.0	2.5	44.2	83		43.2	81		2		40-140/30	70-130/30
Dibenz[a,h]anthracene	50.0	0.0	42.4	85		40.8	82		4		40-140/30	70-130/30
Benzo[g,h,i]perylene	50.0	3.2	44.5	83		42.0	78		6		40-140/30	70-130/30

Column used to flag recovery and RPD values that did not meet criteria

* Values outside of QC limits

$ Values outside of NJ DKQP limits

NC Not calculable

E15-04336 0061

SEMIVOLATILE METHOD BLANK SUMMARY

Lab File ID: C5767.D

Instrument ID: MSDC

Date Extracted: 05/27/15

Matrix: SOIL

Date Analyzed: 05/28/2015

Time Analyzed: 12:20

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS & MSD:

Client ID	Lab Sample ID	Date Analyzed	Time Analyzed
.	LCSS150527-03	05/28/2015	12:36
.	E15-04273-001MS	05/28/2015	12:52
.	E15-04273-001MSD	05/28/2015	13:08
PE-3/6.5	E15-04224-002	05/28/2015	13:24
PH-1-052	E15-04273-001	05/28/2015	13:40
PH-2-052	E15-04273-002	05/28/2015	13:55
PH-3-052	E15-04273-003	05/28/2015	14:11
PH-4-052	E15-04273-004	05/28/2015	14:27
PH-5-052	E15-04273-005	05/28/2015	14:43
PH-6-052	E15-04273-006	05/28/2015	14:59
PH-7-052	E15-04273-007	05/28/2015	15:15
PH-8-052	E15-04273-008	05/28/2015	15:31
PH-9-052	E15-04273-009	05/28/2015	15:47
PH-10-05	E15-04273-010	05/28/2015	16:03
PH-11-05	E15-04273-011	05/28/2015	16:19
PH-12-05	E15-04273-012	05/28/2015	16:34
BG-1	E15-04319-001	05/28/2015	16:50
2	E15-04140-002	05/28/2015	17:07
15-070	E15-04336-001	05/28/2015	17:23
PH-1-052	E15-04273-001	05/28/2015	17:39
PH-2-052	E15-04273-002	05/28/2015	17:55
PH-3-052	E15-04273-003	05/28/2015	18:11
PH-7-052	E15-04273-007	05/28/2015	18:27
PH-10-05	E15-04273-010	05/28/2015	18:43
PH-12-05	E15-04273-012	05/28/2015	18:59

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

Lab File ID: C5623.D

DFTPP Injection Date : 05/20/2015

Inst ID: MSDC

DFTPP Injection Time: 14:20

m/z	Ion Abudance Criteria	%Relative Abundance	
51	30.0 - 60.0% of mass 198	40.8	
68	Less than 2.0% of mass 69	0.0	(0.0)1
69	Mass 69 relative abundance	43.7	
70	Less than 2.0% of mass 69	0.3	(0.6)1
127	40.0 - 60.0% of mass 198	54.6	
197	Less than 1.0% of mass 198	0.0	
198	Base peak, 100% relative abundance	100.0	
199	5.0 - 9.0% of mass 198	6.8	
275	10.0 - 30.0% of mass 198	21.8	
365	Greater than 1.0% of mass 198	2.1	
441	Present, but less than mass 443	9.14	(77.2)3
442	40.0 - 100.0% of mass 198	57.2	
443	17.0 - 23.0% of mass 442	11.8	(20.7)2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

This check applies to the following SAMPLES, MS, MSD, BLANKS and STANDARDS:

Client ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
ABN037-15	ICC001BNA1	C5624.D	05/20/2015	14:37
ABN038-15	ICC010BNA1	C5625.D	05/20/2015	14:53
ABN039-15	ICC020BNA1	C5626.D	05/20/2015	15:09
ABN040-15	ICC040BNA1	C5627.D	05/20/2015	15:25
ABN041-15	ICC080BNA1	C5628.D	05/20/2015	15:41
ABN042-15	ICC160BNA1	C5629.D	05/20/2015	15:57
ABN049-15	ICV040BNA1	C5630.D	05/20/2015	16:13
ABN048-15	ICC160BNA2	C5631.D	05/20/2015	16:28
ABN047-15	ICC080BNA2	C5632.D	05/20/2015	16:44
ABN046-15	ICC040BNA2	C5633.D	05/20/2015	17:00
ABN045-15	ICC020BNA2	C5634.D	05/20/2015	17:16
ABN044-15	ICC010BNA2	C5635.D	05/20/2015	17:32
ABN043-15	ICC001BNA2	C5636.D	05/20/2015	17:48
ABN050-15	ICV040BNA2	C5637.D	05/20/2015	18:03
.	BLKS150519-03	C5638.D	05/20/2015	18:19
.	LCSS150519-03	C5639.D	05/20/2015	18:35
.	E15-04114-001MS	C5640.D	05/20/2015	18:51
.	E15-04114-001MSD	C5641.D	05/20/2015	19:07
ESB-46_(	E15-04114-001	C5642.D	05/20/2015	19:23
ESB-47_(	E15-04114-002	C5643.D	05/20/2015	19:39
ESB-48_(	E15-04114-003	C5644.D	05/20/2015	19:54
ESB-49_(	E15-04114-004	C5645.D	05/20/2015	20:10
ESB-50_(	E15-04114-005	C5646.D	05/20/2015	20:26

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

Lab File ID: C5623.D

DFTPP Injection Date : 05/20/2015

Inst ID: MSDC

DFTPP Injection Time: 14:20

m/z	Ion Abudance Criteria	%Relative Abundance	
51	30.0 - 60.0% of mass 198	40.8	
68	Less than 2.0% of mass 69	0.0	(0.0)1
69	Mass 69 relative abundance	43.7	
70	Less than 2.0% of mass 69	0.3	(0.6)1
127	40.0 - 60.0% of mass 198	54.6	
197	Less than 1.0% of mass 198	0.0	
198	Base peak, 100% relative abundance	100.0	
199	5.0 - 9.0% of mass 198	6.8	
275	10.0 - 30.0% of mass 198	21.8	
365	Greater than 1.0% of mass 198	2.1	
441	Present, but less than mass 443	9.14	(77.2)3
442	40.0 - 100.0% of mass 198	57.2	
443	17.0 - 23.0% of mass 442	11.8	(20.7)2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

This check applies to the following SAMPLES, MS, MSD, BLANKS and STANDARDS:

Client ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
ESB-51_(	E15-04114-006	C5647.D	05/20/2015	20:42
S-3	E15-03895-003	C5648.D	05/20/2015	20:58
S-5	E15-03895-005	C5649.D	05/20/2015	21:13
C-L	E15-03903-001	C5650.D	05/20/2015	21:29
S-150515	E15-04095-001	C5651.D	05/20/2015	21:45
WC-1	E15-04112-001	C5652.D	05/20/2015	22:01

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

Lab File ID: C5764.D

DFTPP Injection Date : 05/28/2015

Inst ID: MSDC

DFTPP Injection Time: 11:35

m/z	Ion Abudance Criteria	%Relative Abundance	
51	30.0 - 60.0% of mass 198	48.5	
68	Less than 2.0% of mass 69	0.0	(0.0)1
69	Mass 69 relative abundance	50.4	
70	Less than 2.0% of mass 69	0.4	(0.8)1
127	40.0 - 60.0% of mass 198	59.9	
197	Less than 1.0% of mass 198	0.0	
198	Base peak, 100% relative abundance	100.0	
199	5.0 - 9.0% of mass 198	7.3	
275	10.0 - 30.0% of mass 198	20.6	
365	Greater than 1.0% of mass 198	1.4	
441	Present, but less than mass 443	7.57	(73.0)3
442	40.0 - 100.0% of mass 198	50.6	
443	17.0 - 23.0% of mass 442	10.4	(20.5)2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

This check applies to the following SAMPLES, MS, MSD, BLANKS and STANDARDS:

Client ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
ABN049-15	CCV040BNA1	C5765.D	05/28/2015	11:45
ABN050-15	CCV040BNA2	C5766.D	05/28/2015	12:01
.	BLKS150527-03	C5767.D	05/28/2015	12:20
.	LCSS150527-03	C5768.D	05/28/2015	12:36
.	E15-04273-001MS	C5769.D	05/28/2015	12:52
.	E15-04273-001MSD	C5770.D	05/28/2015	13:08
PE-3/6.5	E15-04224-002	C5771.D	05/28/2015	13:24
PH-1-052	E15-04273-001	C5772.D	05/28/2015	13:40
PH-2-052	E15-04273-002	C5773.D	05/28/2015	13:55
PH-3-052	E15-04273-003	C5774.D	05/28/2015	14:11
PH-4-052	E15-04273-004	C5775.D	05/28/2015	14:27
PH-5-052	E15-04273-005	C5776.D	05/28/2015	14:43
PH-6-052	E15-04273-006	C5777.D	05/28/2015	14:59
PH-7-052	E15-04273-007	C5778.D	05/28/2015	15:15
PH-8-052	E15-04273-008	C5779.D	05/28/2015	15:31
PH-9-052	E15-04273-009	C5780.D	05/28/2015	15:47
PH-10-05	E15-04273-010	C5781.D	05/28/2015	16:03
PH-11-05	E15-04273-011	C5782.D	05/28/2015	16:19
PH-12-05	E15-04273-012	C5783.D	05/28/2015	16:34
BG-1	E15-04319-001	C5784.D	05/28/2015	16:50
2	E15-04140-002	C5785.D	05/28/2015	17:07
15-070	E15-04336-001	C5786.D	05/28/2015	17:23
PH-1-052	E15-04273-001	C5787.D	05/28/2015	17:39

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

Lab File ID: C5764.D

DFTPP Injection Date : 05/28/2015

Inst ID: MSDC

DFTPP Injection Time: 11:35

m/z	Ion Abudance Criteria	%Relative Abundance	
51	30.0 - 60.0% of mass 198	48.5	
68	Less than 2.0% of mass 69	0.0	(0.0)1
69	Mass 69 relative abundance	50.4	
70	Less than 2.0% of mass 69	0.4	(0.8)1
127	40.0 - 60.0% of mass 198	59.9	
197	Less than 1.0% of mass 198	0.0	
198	Base peak, 100% relative abundance	100.0	
199	5.0 - 9.0% of mass 198	7.3	
275	10.0 - 30.0% of mass 198	20.6	
365	Greater than 1.0% of mass 198	1.4	
441	Present, but less than mass 443	7.57	(73.0)3
442	40.0 - 100.0% of mass 198	50.6	
443	17.0 - 23.0% of mass 442	10.4	(20.5)2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

This check applies to the following SAMPLES, MS, MSD, BLANKS and STANDARDS:

Client ID	Lab Sample ID	File ID	Date Analyzed	Time Analyzed
PH-2-052	E15-04273-002	C5788.D	05/28/2015	17:55
PH-3-052	E15-04273-003	C5789.D	05/28/2015	18:11
PH-7-052	E15-04273-007	C5790.D	05/28/2015	18:27
PH-10-05	E15-04273-010	C5791.D	05/28/2015	18:43
PH-12-05	E15-04273-012	C5792.D	05/28/2015	18:59

Response Factor Report MSD_C

Method Path : C:\MSDCHEM\1\METHODS\
Method File : CS1215.M
Title : BNA CALIBRATION METHOD
Last Update : Thu May 21 08:45:42 2015
Response Via : Initial Calibration

Calibration Files
1 =C5624.D 10 =C5625.D 20 =C5626.D
40 =C5627.D 80 =C5628.D 160 =C5629.D

		Compound	1	10	20	40	80	160	Avg	%RSD
1)	I	1,4-Dichlorobenzene-d	ISTD							
2)	T	N-Nitrosodimethyl	1.012	0.917	0.857	0.917	0.902	1.035	0.940	7.30
3)	T	Pyridine	1.202	1.114	1.020	1.070	1.112	1.203	1.120	6.44
4)	S	2-Fluorophenol	1.444	1.408	1.411	1.493	1.466	1.588	1.469	4.57
5)	T	Benzaldehyde	0.700	0.932	0.959	0.936	0.714	0.612	0.809	18.61
6)	S	Phenol-d5	1.766	1.714	1.711	1.763	1.797	1.920	1.778	4.32
7)	MC	Phenol	2.250	2.045	1.948	1.876	2.036	2.004	2.026	6.23
8)	T	Aniline	0.793	0.782	0.807	0.825	0.855	0.869	0.822	4.20
9)	T	Bis(2-chloroethyl	1.234	1.087	1.096	1.087	1.082	1.161	1.125	5.46
10)	M	2-Chlorophenol	1.768	1.496	1.435	1.545	1.625	1.658	1.588	7.56
11)	T	1,3-Dichlorobenze	1.765	1.650	1.604	1.589	1.666	1.730	1.667	4.15
12)	MC	1,4-Dichlorobenze	1.741	1.564	1.546	1.556	1.683	1.669	1.627	5.03
13)	T	Benzyl alcohol	1.173	1.046	0.979	0.993	1.053	1.039	1.047	6.57
14)	T	1,2-Dichlorobenze	1.670	1.551	1.458	1.489	1.591	1.623	1.564	5.15
15)	T	2-Methylphenol	1.486	1.418	1.330	1.353	1.388	1.471	1.408	4.45
16)	T	Bis(2-chloroisopr	2.067	1.916	1.862	1.868	1.861	2.001	1.929	4.47
17)	T	4-Methylphenol	1.520	1.426	1.350	1.400	1.406	1.512	1.435	4.68
18)	MP	N-Nitrosodi-n-pro	1.196	1.114	1.034	1.083	1.076	1.146	1.108	5.17
19)	T	Acetophenone	2.431	2.204	2.105	2.149	2.190	2.301	2.230	5.30
20)	T	3-Methylphenol	1.520	1.427	1.350	1.399	1.405	1.511	1.435	4.68
21)	T	Hexachloroethane	0.640	0.585	0.547	0.562	0.594	0.620	0.591	5.90
22)	T	2,6-Dimethylpheno							0.000	-1.00
23)	I	Naphthalene-d8	ISTD							
24)	S	Nitrobenzene-d5	0.345	0.351	0.356	0.357	0.389	0.430	0.371	8.77
25)	T	Nitrobenzene	0.458	0.357	0.345	0.363	0.373	0.380	0.380	10.67
26)	T	Isophorone	0.740	0.696	0.677	0.671	0.709	0.728	0.703	3.93
27)	TC	2-Nitrophenol	0.202	0.202	0.191	0.188	0.206	0.214	0.201	4.72
28)	T	2,4-Dimethylpheno	0.371	0.352	0.345	0.341	0.379	0.380	0.361	4.83
29)	T	Bis(2-chloroethox	0.451	0.436	0.416	0.407	0.423	0.439	0.429	3.83
30)	T	Benzoic acid	0.073	0.097	0.078	0.115	0.102	0.116	0.097	18.96
31)	T	2,4-Dimethylanili	0.380	0.382	0.403	0.405	0.447	0.440	0.410	6.90
32)	TC	2,4-Dichloropheno	0.284	0.275	0.272	0.278	0.300	0.304	0.285	4.69
33)	M	1,2,4-Trichlorobe	0.315	0.303	0.297	0.300	0.321	0.307	0.307	3.04
34)	T	Naphthalene	1.163	1.078	1.066	1.067	1.108	1.069	1.092	3.49
35)	T	4-Chloroaniline	0.557	0.545	0.542	0.556	0.575	0.550	0.554	2.10
36)	T	4-Aminotoluene	0.597	0.607	0.610	0.625	0.670	0.658	0.628	4.73
37)	TC	Hexachlorobutadie	0.163	0.153	0.153	0.151	0.159	0.159	0.156	2.93
38)	T	Caprolactam	0.165	0.151	0.150	0.150	0.159	0.165	0.157	4.64
39)	T	2-Aminotoluene	0.597	0.607	0.610	0.625	0.670	0.658	0.628	4.73
40)	MC	4-Chloro-3-methyl	0.327	0.289	0.296	0.292	0.309	0.315	0.305	4.85
41)	T	2-Methylnaphthale	0.743	0.688	0.669	0.663	0.708	0.710	0.697	4.27
42)	T	2,5-Dimethylpheno							0.000	-1.00
43)	I	Acenaphthene-d10	ISTD							
44)	TP	Hexachlorocyclope	0.258	0.241	0.231	0.251	0.291	0.285	0.260	9.25
45)	TC	2,4,6-Trichloroph	0.346	0.342	0.328	0.319	0.362	0.344	0.340	4.37
46)	T	2,4,5-Trichloroph	0.374	0.351	0.329	0.332	0.360	0.353	0.350	4.86
47)	S	2-Fluorobiphenyl	1.244	1.229	1.193	1.164	1.258	1.200	1.215	2.89
48)	T	1,1'-Biphenyl	1.635	1.552	1.474	1.444	1.658	1.526	1.548	5.53
49)	T	2-Chloronaphthale	1.160	1.085	1.061	1.058	1.168	1.098	1.105	4.36
50)	T	2-Nitroaniline	0.268	0.277	0.275	0.291	0.317	0.298	0.288	6.22
51)	T	Dimethyl phthalat	1.364	1.265	1.205	1.193	1.329	1.249	1.267	5.34

52)	T	2,6-Dinitrotoluen	0.215	0.238	0.233	0.245	0.276	0.299	0.251	12.26
53)	T	Acenaphthylene	1.771	1.767	1.697	1.712	1.877	1.761	1.764	3.60
54)	T	3-Nitroaniline	0.274	0.292	0.291	0.299	0.328	0.341	0.304	8.25
55)	MC	Acenaphthene	1.181	1.137	1.091	1.116	1.171	1.194	1.148	3.50
56)	TP	2,4-Dinitrophenol	0.069	0.060	0.067	0.093	0.079	0.082	0.075	16.14
57)	MP	4-Nitrophenol	0.224	0.232	0.221	0.232	0.243	0.245	0.233	4.10
58)	M	2,4-Dinitrotoluen	0.261	0.303	0.320	0.340	0.378	0.374	0.329	13.57
59)	T	Dibenzofuran	1.633	1.504	1.465	1.470	1.549	1.563	1.531	4.20
60)	T	Diethyl phthalate	1.239	1.203	1.133	1.192	1.238	1.262	1.211	3.81
61)	T	Fluorene	1.293	1.285	1.192	1.206	1.320	1.273	1.262	4.04
62)	T	4-Chlorophenyl ph	0.613	0.573	0.539	0.549	0.576	0.565	0.569	4.53
63)	T	4-Nitroaniline	0.283	0.297	0.286	0.292	0.329	0.326	0.302	6.70
64)		1,2,4,5-Tetrachlo	1.047	0.975	0.924	0.911	1.027	0.996	0.980	5.55
65)	T	2,3,4,6-Tetrachlo	0.221	0.254	0.252	0.248	0.256	0.247	0.246	5.27
66)	I	Phenanthrene-d10	----------ISTD----------							
67)	T	4,6-Dinitro-2-met		0.072	0.094	0.104	0.097	0.125	0.098	19.43
68)	TC	N-Nitrosodiphenyl	0.597	0.583	0.577	0.617	0.626	0.649	0.608	4.55
69)	T	1,2-Diphenylhydra	0.920	0.911	0.895	0.954	0.979	1.022	0.947	5.07
70)	S	2,4,6-Tribromophe	0.108	0.115	0.113	0.116	0.112	0.117	0.113	2.90
71)	T	4-Bromophenyl phe	0.205	0.210	0.199	0.207	0.216	0.220	0.210	3.58
72)	T	Hexachlorobenzene	0.253	0.239	0.220	0.224	0.236	0.232	0.234	5.00
73)	T	Atrazine	0.228	0.226	0.214	0.227	0.243	0.237	0.229	4.33
74)	MC	Pentachlorophenol	0.130	0.121	0.134	0.146	0.155	0.158	0.141	10.40
75)	T	Phenanthrene	1.166	1.151	1.131	1.150	1.213	1.169	1.163	2.41
76)	T	Anthracene	1.101	1.128	1.118	1.139	1.177	1.200	1.144	3.27
77)	T	Carbazole	1.070	1.020	1.017	1.058	1.080	1.073	1.053	2.63
78)	T	Di-n-butyl phthal	1.194	1.274	1.241	1.330	1.365	1.302	1.284	4.79
79)	TC	Fluoranthene	1.070	1.118	1.086	1.121	1.129	1.110	1.105	2.06
80)	T	Benzidine	0.368	0.361	0.423	0.501	0.430	0.350	0.405	14.18
81)		4-Aminoaniline							0.000	-1.00
82)	I	Chrysene-d12	----------ISTD----------							
83)	M	Pyrene	1.319	1.317	1.309	1.347	1.480	1.465	1.373	5.71
84)	S	Terphenyl-d14	1.014	1.000	1.006	1.034	1.032	1.004	1.015	1.45
85)	T	3,3'-Dimethylbenz	0.496	0.579	0.682	0.785	0.727	0.555	0.637	17.45
86)	T	Butyl benzyl phth	0.591	0.631	0.631	0.664	0.699	0.745	0.660	8.35
87)	T	3,3'-Dichlorobenz	0.347	0.359	0.354	0.351	0.395	0.351	0.360	4.99
88)	T	Benzo[a]anthracen	1.237	1.124	1.105	1.118	1.209	1.220	1.169	5.06
89)	T	Chrysene	1.121	1.086	1.057	1.030	1.141	1.145	1.097	4.28
90)	T	Bis(2-ethylhexyl)	0.694	0.795	0.829	0.866	0.932	1.019	0.856	13.13
91)	T	3,3'-Dimethoxyben							0.000	-1.00
92)	I	Perylene-d12	----------ISTD----------							
93)	TC	Di-n-octyl phthal	1.449	1.893	1.916	1.961	1.930	2.081	1.872	11.62
94)	T	Benzo[b]fluoranth	1.638	1.442	1.418	1.402	1.684	1.649	1.539	8.51
95)	T	Benzo[k]fluoranth	1.515	1.750	1.648	1.612	1.580	1.653	1.627	4.86
96)	TC	Benzo[a]pyrene	1.372	1.455	1.410	1.448	1.585	1.636	1.484	6.96
97)	T	Indeno[1,2,3-cd]p	1.210	1.617	1.690	1.790	1.858	1.966	1.688	15.66
98)	T	Dibenz[a,h]anthra	1.013	1.277	1.286	1.471	1.473	1.585	1.351	15.08
99)	T	Benzo[g,h,i]peryl	1.160	1.361	1.452	1.501	1.530	1.605	1.435	10.95

(#) = Out of Range

CS1215.M Thu May 21 09:03:11 2015 RPT1

Evaluate Continuing Calibration Report

Data Path : C:\MSDChem\1\DATA\05-20-15\
Data File : C5630.D
Acq On : 20 May 2015 16:13
Operator : EDM
Sample : ABN049-15,ICV040BNA1
Misc : NA,05/20/15,NA,1
ALS Vial : 97 Sample Multiplier: 1

Quant Time: May 20 16:24:31 2015
Quant Method : C:\MSDCHEM\1\METHODS\CS1215.M
Quant Title : BNA CALIBRATION METHOD
QLast Update : Wed May 20 16:10:41 2015
Response via : Initial Calibration

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	98	0.00
2	T	N-Nitrosodimethylamine	0.940	0.918	2.3	98	-0.01
3	T	Pyridine	1.120	1.078	3.8	99	0.00
4	S	2-Fluorophenol	1.469	1.462	0.5	96	0.00
5	T	Benzaldehyde	0.809	0.913	-12.9	100	0.00
6	S	Phenol-d5	1.778	1.760	1.0	98	0.00
7	MC	Phenol	2.026	1.901	6.2	99	0.00
8	T	Aniline	0.822	0.838	-1.9	99	0.00
9	T	Bis(2-chloroethyl) ether	1.125	1.110	1.3	100	0.00
10	M	2-Chlorophenol	1.588	1.541	3.0	98	0.00
11	T	1,3-Dichlorobenzene	1.667	1.585	4.9	98	0.00
12	MC	1,4-Dichlorobenzene	1.627	1.572	3.4	99	0.00
13	T	Benzyl alcohol	1.047	0.993	5.2	98	0.00
14	T	1,2-Dichlorobenzene	1.564	1.462	6.5	96	0.00
15	T	2-Methylphenol	1.408	1.332	5.4	96	0.00
16	T	Bis(2-chloroisopropyl) ethe	1.929	1.816	5.9	95	0.00
17	T	4-Methylphenol	1.435	1.356	5.5	95	0.00
18	MP	N-Nitrosodi-n-propylamine	1.108	1.052	5.1	95	0.00
19	T	Acetophenone	2.230	2.180	2.2	99	0.00
20	T	3-Methylphenol	1.435	1.355	5.6	95	0.00
21	T	Hexachloroethane	0.591	0.557	5.8	97	0.00
22	T	2,6-Dimethylphenol					
23	I	Naphthalene-d8	1.000	1.000	0.0	96	0.00
24	S	Nitrobenzene-d5	0.371	0.361	2.7	97	0.00
25	T	Nitrobenzene	0.380	0.354	6.8	94	0.00
26	T	Isophorone	0.703	0.647	8.0	93	-0.01
27	TC	2-Nitrophenol	0.201	0.193	4.0	99	0.00
28	T	2,4-Dimethylphenol	0.361	0.346	4.2	98	-0.01
29	T	Bis(2-chloroethoxy) methane	0.429	0.413	3.7	98	0.00
30	T	Benzoic acid	0.097	0.125	-28.9	105	-0.03
31	T	2,4-Dimethylaniline	0.410	0.410	0.0	98	0.00
32	TC	2,4-Dichlorophenol	0.285	0.271	4.9	94	0.00
33	M	1,2,4-Trichlorobenzene	0.307	0.295	3.9	95	0.00
34	T	Naphthalene	1.092	1.066	2.4	96	0.00
35	T	4-Chloroaniline	0.554	0.550	0.7	95	0.00
36	T	4-Aminotoluene	0.628	0.615	2.1	95	-0.01
37	TC	Hexachlorobutadiene	0.156	0.149	4.5	95	0.00
38	T	Caprolactam	0.157	0.154	1.9	99	-0.03
39	T	2-Aminotoluene	0.628	0.615	2.1	95	-0.01
40	MC	4-Chloro-3-methylphenol	0.305	0.300	1.6	99	0.00
41	T	2-Methylnaphthalene	0.697	0.673	3.4	98	0.00
42	T	2,5-Dimethylphenol					
43	I	Acenaphthene-d10	1.000	1.000	0.0	92	0.00
44	TP	Hexachlorocyclopentadiene	0.260	0.259	0.4	95	0.00
45	TC	2,4,6-Trichlorophenol	0.340	0.325	4.4	94	0.00

46	T	2,4,5-Trichlorophenol	0.350	0.339	3.1	94	0.00
47	S	2-Fluorobiphenyl	1.215	1.240	-2.1	98	0.00
48	T	1,1'-Biphenyl	1.548	1.519	1.9	97	0.00
49	T	2-Chloronaphthalene	1.105	1.072	3.0	93	0.00
50	T	2-Nitroaniline	0.288	0.292	-1.4	92	0.00
51	T	Dimethyl phthalate	1.267	1.202	5.1	93	0.00
52	T	2,6-Dinitrotoluene	0.251	0.257	-2.4	96	0.00
53	T	Acenaphthylene	1.764	1.775	-0.6	95	0.00
54	T	3-Nitroaniline	0.304	0.309	-1.6	95	-0.01
55	MC	Acenaphthene	1.148	1.130	1.6	93	0.00
56	TP	2,4-Dinitrophenol	0.075	0.087	-16.0	86	-0.01
57	MP	4-Nitrophenol	0.233	0.239	-2.6	95	-0.01
58	M	2,4-Dinitrotoluene	0.329	0.351	-6.7	95	0.00
59	T	Dibenzofuran	1.531	1.522	0.6	95	0.00
60	T	Diethyl phthalate	1.211	1.187	2.0	91	0.00
61	T	Fluorene	1.262	1.256	0.5	96	0.00
62	T	4-Chlorophenyl phenyl ether	0.569	0.552	3.0	92	0.00
63	T	4-Nitroaniline	0.302	0.307	-1.7	97	-0.01
64		1,2,4,5-Tetrachlorobenzene	0.980	0.982	-0.2	99	0.00
65	T	2,3,4,6-Tetrachlorophenol	0.246	0.252	-2.4	93	0.00
66	I	Phenanthrene-d10	1.000	1.000	0.0	96	0.00
67	T	4,6-Dinitro-2-methylphenol	0.098	0.118	-20.4	109	-0.01
68	TC	N-Nitrosodiphenylamine	0.608	0.598	1.6	93	-0.01
69	T	1,2-Diphenylhydrazine	0.947	0.929	1.9	93	0.00
70	S	2,4,6-Tribromophenol	0.113	0.113	0.0	93	0.00
71	T	4-Bromophenyl phenyl ether	0.210	0.202	3.8	93	0.00
72	T	Hexachlorobenzene	0.234	0.219	6.4	94	0.00
73	T	Atrazine	0.229	0.218	4.8	92	-0.01
74	MC	Pentachlorophenol	0.141	0.144	-2.1	95	0.00
75	T	Phenanthrene	1.163	1.150	1.1	96	0.00
76	T	Anthracene	1.144	1.128	1.4	95	-0.01
77	T	Carbazole	1.053	1.039	1.3	94	-0.01
78	T	Di-n-butyl phthalate	1.284	1.292	-0.6	93	0.00
79	TC	Fluoranthene	1.105	1.096	0.8	94	-0.01
80	T	Benzidine	0.405	0.420	-3.7	89	-0.02
81		4-Aminoaniline					
82	I	Chrysene-d12	1.000	1.000	0.0	93	0.00
83	M	Pyrene	1.373	1.344	2.1	93	-0.01
84	S	Terphenyl-d14	1.015	1.019	-0.4	92	0.00
85	T	3,3'-Dimethylbenzidine	0.637	0.656	-3.0	92	-0.03
86	T	Butyl benzyl phthalate	0.660	0.649	1.7	91	-0.01
87	T	3,3'-Dichlorobenzidine	0.360	0.357	0.8	95	-0.01
88	T	Benzo[a]anthracene	1.169	1.112	4.9	93	0.00
89	T	Chrysene	1.097	1.025	6.6	93	-0.01
90	T	Bis(2-ethylhexyl) phthalate	0.856	0.843	1.5	91	0.00
91	T	3,3'-Dimethoxybenzidine					
92	I	Perylene-d12	1.000	1.000	0.0	102	-0.02
93	TC	Di-n-octyl phthalate	1.872	1.812	3.2	95	-0.01
94	T	Benzo[b]fluoranthene	1.539	1.471	4.4	107	-0.02
95	T	Benzo[k]fluoranthene	1.627	1.516	6.8	96	-0.03
96	TC	Benzo[a]pyrene	1.484	1.442	2.8	102	-0.03
97	T	Indeno[1,2,3-cd]pyrene	1.688	1.729	-2.4	99	-0.06
98	T	Dibenz[a,h]anthracene	1.351	1.391	-3.0	97	-0.06
99	T	Benzo[g,h,i]perylene	1.435	1.486	-3.6	101	-0.07

(#) = Out of Range SPCC's out = 0 CCC's out = 0

CS1215.M Thu May 21 09:04:41 2015 RPT1

Evaluate Continuing Calibration Report

Data Path : C:\MSDChem\1\DATA\05-28-15\
Data File : C5765.D
Acq On : 28 May 2015 11:45
Operator : EDM
Sample : ABN049-15,CCV040BNA1
Misc : NA,05/28/15,NA,1
ALS Vial : 97 Sample Multiplier: 1

Quant Time: May 28 12:00:36 2015
Quant Method : C:\MSDCHEM\1\METHODS\CS1215.M
Quant Title : BNA CALIBRATION METHOD
QLast Update : Thu May 21 08:45:42 2015
Response via : Initial Calibration

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	129	0.00
2	T	N-Nitrosodimethylamine	0.940	0.746	20.6	105	0.00
3	T	Pyridine	1.120	0.847	24.4	102	0.00
4	S	2-Fluorophenol	1.469	1.444	1.7	125	0.00
5	T	Benzaldehyde	0.809	0.981	-21.3	160	0.00
6	S	Phenol-d5	1.778	1.745	1.9	127	0.00
7	MC	Phenol	2.026	1.982	2.2	136	0.00
8	T	Aniline	0.822	0.781	5.0	122	0.00
9	T	Bis(2-chloroethyl) ether	1.125	0.984	12.5	117	0.00
10	M	2-Chlorophenol	1.588	1.592	-0.3	133	0.00
11	T	1,3-Dichlorobenzene	1.667	1.628	2.3	132	0.00
12	MC	1,4-Dichlorobenzene	1.627	1.707	-4.9	141	0.00
13	T	Benzyl alcohol	1.047	0.977	6.7	127	0.00
14	T	1,2-Dichlorobenzene	1.564	1.589	-1.6	137	0.00
15	T	2-Methylphenol	1.408	1.371	2.6	131	0.00
16	T	Bis(2-chloroisopropyl) ethe	1.929	1.690	12.4	116	0.00
17	T	4-Methylphenol	1.435	1.339	6.7	123	0.00
18	MP	N-Nitrosodi-n-propylamine	1.108	0.977	11.8	116	0.00
19	T	Acetophenone	2.230	2.055	7.8	123	0.00
20	T	3-Methylphenol	1.435	1.337	6.8	123	0.00
21	T	Hexachloroethane	0.591	0.582	1.5	133	0.00
22	T	2,6-Dimethylphenol					
23	I	Naphthalene-d8	1.000	1.000	0.0	134	0.00
24	S	Nitrobenzene-d5	0.371	0.328	11.6	123	0.00
25	T	Nitrobenzene	0.380	0.315	17.1	116	0.00
26	T	Isophorone	0.703	0.607	13.7	121	0.00
27	TC	2-Nitrophenol	0.201	0.184	8.5	131	0.00
28	T	2,4-Dimethylphenol	0.361	0.330	8.6	129	0.00
29	T	Bis(2-chloroethoxy) methane	0.429	0.375	12.6	123	0.00
30	T	Benzoic acid	0.097	0.114	-17.5	132	-0.02
31	T	2,4-Dimethylaniline	0.410	0.420	-2.4	138	0.00
32	TC	2,4-Dichlorophenol	0.285	0.283	0.7	136	0.00
33	M	1,2,4-Trichlorobenzene	0.307	0.309	-0.7	138	0.01
34	T	Naphthalene	1.092	1.081	1.0	135	0.00
35	T	4-Chloroaniline	0.554	0.554	0.0	133	0.00
36	T	4-Aminotoluene	0.628	0.573	8.8	123	0.00
37	TC	Hexachlorobutadiene	0.156	0.156	0.0	138	0.01
38	T	Caprolactam	0.157	0.134	14.6	119	-0.01
39	T	2-Aminotoluene	0.628	0.573	8.8	123	0.00
40	MC	4-Chloro-3-methylphenol	0.305	0.280	8.2	128	0.02
41	T	2-Methylnaphthalene	0.697	0.637	8.6	128	0.02
42	T	2,5-Dimethylphenol					
43	I	Acenaphthene-d10	1.000	1.000	0.0	123	0.05
44	TP	Hexachlorocyclopentadiene	0.260	0.192	26.2	94	0.05
45	TC	2,4,6-Trichlorophenol	0.340	0.346	-1.8	134	0.05
46	T	2,4,5-Trichlorophenol	0.350	0.348	0.6	129	0.03

47	S	2-Fluorobiphenyl	1.215	1.206	0.7	127	0.03
48	T	1,1'-Biphenyl	1.548	1.552	-0.3	132	0.03
49	T	2-Chloronaphthalene	1.105	1.096	0.8	127	0.03
50	T	2-Nitroaniline	0.288	0.280	2.8	118	0.03
51	T	Dimethyl phthalate	1.267	1.152	9.1	119	0.04
52	T	2,6-Dinitrotoluene	0.251	0.247	1.6	124	0.04
53	T	Acenaphthylene	1.764	1.831	-3.8	132	0.04
54	T	3-Nitroaniline	0.304	0.309	-1.6	127	0.04
55	MC	Acenaphthene	1.148	1.151	-0.3	127	0.04
56	TP	2,4-Dinitrophenol	0.075	0.084	-12.0	110	0.04
57	MP	4-Nitrophenol	0.233	0.217	6.9	115	0.04
58	M	2,4-Dinitrotoluene	0.329	0.349	-6.1	126	0.05
59	T	Dibenzofuran	1.531	1.517	0.9	127	0.05
60	T	Diethyl phthalate	1.211	1.167	3.6	120	0.05
61	T	Fluorene	1.262	1.251	0.9	128	0.06
62	T	4-Chlorophenyl phenyl ether	0.569	0.555	2.5	124	0.06
63	T	4-Nitroaniline	0.302	0.306	-1.3	129	0.05
64		1,2,4,5-Tetrachlorobenzene	0.980	1.008	-2.9	136	0.03
65	T	2,3,4,6-Tetrachlorophenol	0.246	0.239	2.8	118	0.05
66	I	Phenanthrene-d10	1.000	1.000	0.0	119	0.09
67	T	4,6-Dinitro-2-methylphenol	0.098	0.120	-22.4	138	0.06
68	TC	N-Nitrosodiphenylamine	0.608	0.637	-4.8	123	0.06
69	T	1,2-Diphenylhydrazine	0.947	0.932	1.6	117	0.06
70	S	2,4,6-Tribromophenol	0.113	0.120	-6.2	124	0.07
71	T	4-Bromophenyl phenyl ether	0.210	0.224	-6.7	129	0.07
72	T	Hexachlorobenzene	0.234	0.236	-0.9	126	0.08
73	T	Atrazine	0.229	0.225	1.7	118	0.07
74	MC	Pentachlorophenol	0.141	0.142	-0.7	116	0.09
75	T	Phenanthrene	1.163	1.147	1.4	119	0.09
76	T	Anthracene	1.144	1.162	-1.6	122	0.09
77	T	Carbazole	1.053	1.022	2.9	115	0.09
78	T	Di-n-butyl phthalate	1.284	1.327	-3.3	119	0.11
79	TC	Fluoranthene	1.105	1.072	3.0	114	0.13
80	T	Benzidine	0.405	0.481	-18.8	143	0.13
81		4-Aminoaniline					
82	I	Chrysene-d12	1.000	1.000	0.0	103	0.13
83	M	Pyrene	1.373	1.575	-14.7	121	0.15
84	S	Terphenyl-d14	1.015	1.156	-13.9	115	0.18
85	T	3,3'-Dimethylbenzidine	0.637	0.689	-8.2	114	0.16
86	T	Butyl benzyl phthalate	0.660	0.654	0.9	102	0.18
87	T	3,3'-Dichlorobenzidine	0.360	0.400	-11.1	117	0.13
88	T	Benzo[a]anthracene	1.169	1.169	0.0	108	0.13
89	T	Chrysene	1.097	1.092	0.5	109	0.13
90	T	Bis(2-ethylhexyl) phthalate	0.856	0.950	-11.0	113	0.13
91	T	3,3'-Dimethoxybenzidine					
92	I	Perylene-d12	1.000	1.000	0.0	120	0.11
93	TC	Di-n-octyl phthalate	1.872	2.024	-8.1	124	0.11
94	T	Benzo[b]fluoranthene	1.539	1.423	7.5	122	0.10
95	T	Benzo[k]fluoranthene	1.627	1.583	2.7	118	0.10
96	TC	Benzo[a]pyrene	1.484	1.452	2.2	120	0.10
97	T	Indeno[1,2,3-cd]pyrene	1.688	1.890	-12.0	126	0.05
98	T	Dibenz[a,h]anthracene	1.351	1.537	-13.8	125	0.05
99	T	Benzo[g,h,i]perylene	1.435	1.620	-12.9	129	0.05

(#) = Out of Range SPCC's out = 0 CCC's out = 0

CS1215.M Thu May 28 12:39:26 2015 RPT1

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): C5624.D

Date Analyzed: 05/20/2015

Instrument ID: MSDC

Time Analyzed: 14:37

	40 ppm	IS1 AREA	#	RT	#	IS2 AREA	#	RT	#	IS3 AREA	#	RT	#
	12 HOUR STD	250783		2.46		1066696		3.00		624765		3.81	
	UPPER LIMIT	501566		2.96		2133392		3.50		1249530		4.31	
	LOWER LIMIT	125392		1.96		533348		2.50		312383		3.31	
	LAB SAMPLE ID												
01	ICC010BNA1	271412		2.46		1153358		3.00		682599		3.81	
02	ICC020BNA1	260426		2.46		1069071		3.00		644780		3.82	
03	ICC040BNA1	253591		2.46		1064320		3.00		647070		3.82	
04	ICC080BNA1	246374		2.46		1012531		3.00		583700		3.81	
05	ICC160BNA1	248341		2.46		1069066		3.01		621030		3.81	
06	ICV040BNA1	248395		2.46		1026865		3.00		594577		3.81	
07	ICC160BNA2	267102		2.46		1150000		3.00		652088		3.80	
08	ICC080BNA2	260091		2.46		1069590		3.00		636310		3.81	
09	ICC040BNA2	254992		2.46		1079695		3.00		632171		3.81	
10	ICC020BNA2	261857		2.46		1117529		3.00		645945		3.81	
11	ICC010BNA2	276331		2.46		1120815		3.00		657701		3.80	
12	ICC001BNA2	273216		2.46		1085557		3.00		650542		3.80	
13	ICV040BNA2	259208		2.46		1078030		3.00		625671		3.80	
14	BLKS150519-03	294955		2.46		1209246		3.00		732775		3.80	
15	LCSS150519-03	287169		2.46		1229754		3.00		641856		3.80	
16	E15-04114-001MS	271201		2.46		1142225		3.00		580897		3.80	
17	E15-04114-001MSD	280150		2.46		1196851		3.00		592623		3.80	
18	E15-04114-001	286177		2.46		1189044		3.00		674767		3.81	
19	E15-04114-002	285083		2.46		1190555		3.00		683790		3.80	
20	E15-04114-003	271125		2.46		1159738		3.00		652914		3.81	
21	E15-04114-004	261465		2.46		1098788		3.00		624138		3.81	
22	E15-04114-005	271565		2.46		1124046		3.00		641278		3.81	

IS1 = 1,4-Dichlorobenzene-d4
IS2 = Naphthalene-d8
IS3 = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): C5624.D

Date Analyzed: 05/20/2015

Instrument ID: MSDC

Time Analyzed: 14:37

	40 ppm	IS4 AREA	#	RT	#	IS5 AREA	#	RT	#	IS6 AREA	#	RT	#
	12 HOUR STD	981443		4.57		846707		6.32		513650		7.65	
	UPPER LIMIT	1962886		5.07		1693414		6.82		1027300		8.15	
	LOWER LIMIT	490722		4.07		423354		5.82		256825		7.15	
	LAB SAMPLE ID												
01	ICC010BNA1	1035332		4.57		894417		6.33		490566		7.64	
02	ICC020BNA1	979213		4.58		829608		6.34		460563		7.65	
03	ICC040BNA1	932895		4.58		794393		6.34		463590		7.66	
04	ICC080BNA1	855284		4.57		667817		6.33		488589		7.66	
05	ICC160BNA1	890655		4.57		673614		6.33		486681		7.67	
06	ICV040BNA1	892123		4.57		741491		6.32		474755		7.65	
07	ICC160BNA2	1011663		4.55		804389		6.31		564722		7.62	
08	ICC080BNA2	964672		4.56		814567		6.31		499319		7.63	
09	ICC040BNA2	1012138		4.57		906895		6.32		563080		7.66	
10	ICC020BNA2	1037824		4.56		913987		6.30		573039		7.64	
11	ICC010BNA2	1076211		4.55		953350		6.30		588945		7.64	
12	ICC001BNA2	1066275		4.54		932932		6.29		585872		7.62	
13	ICV040BNA2	994724		4.54		873279		6.30		572760		7.62	
14	BLKS150519-03	1189388		4.54		1018198		6.29		461282		7.63	
15	LCSS150519-03	1138439		4.54		863678		6.29		397682		7.60	
16	E15-04114-001MS	1071817		4.55		744374		6.30		400272		7.63	
17	E15-04114-001MSD	1078394		4.55		743311		6.30		422086		7.62	
18	E15-04114-001	1045840		4.56		722501		6.30		412691		7.64	
19	E15-04114-002	1062808		4.55		756938		6.30		452223		7.63	
20	E15-04114-003	987540		4.56		734588		6.31		425343		7.65	
21	E15-04114-004	944424		4.57		721878		6.33		412052		7.66	
22	E15-04114-005	928344		4.57		771928		6.32		462262		7.66	

IS4 = Phenanthrene-d10
IS5 = Chrysene-d12
IS6 = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): C5624.D

Date Analyzed: 05/20/2015

Instrument ID: MSDC

Time Analyzed: 14:37

	40 ppm	IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
	12 HOUR STD	250783	2.46	1066696	3.00	624765	3.81
	UPPER LIMIT	501566	2.96	2133392	3.50	1249530	4.31
	LOWER LIMIT	125392	1.96	533348	2.50	312383	3.31
	LAB SAMPLE ID						
01	E15-04114-006	281163	2.46	1175236	3.00	632426	3.8
02	E15-03895-003	278193	2.46	1114445	3.01	611244	3.83
03	E15-03895-005	294300	2.46	1164035	3	622986	3.82
04	E15-03903-001	237522	2.46	954489	3	589238	3.81
05	E15-04095-001	402611	2.46	1252111	3.01	649734	3.85
06	E15-04112-001	281682	2.46	1197047	3	669571	3.8
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IS1 = 1,4-Dichlorobenzene-d4
IS2 = Naphthalene-d8
IS3 = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): C5624.D

Date Analyzed: 05/20/2015

Instrument ID: MSDC

Time Analyzed: 14:37

	40 ppm	IS4 AREA #	RT #	IS5 AREA #	RT #	IS6 AREA #	RT #
	12 HOUR STD	981443	4.57	846707	6.32	513650	7.65
	UPPER LIMIT	1962886	5.07	1693414	6.82	1027300	8.15
	LOWER LIMIT	490722	4.07	423354	5.82	256825	7.15
	LAB SAMPLE ID						
01	E15-04114-006	922139	4.55	790206	6.31	463539	7.63
02	E15-03895-003	894437	4.60	781836	6.37	459942	7.72
03	E15-03895-005	875080	4.58	819107	6.34	477830	7.69
04	E15-03903-001	819063	4.56	798325	6.30	439601	7.63
05	E15-04095-001	948657	4.64	894807	6.43	487288	7.77
06	E15-04112-001	954526	4.54	838295	6.29	500674	7.63
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22							

IS4 = Phenanthrene-d10
IS5 = Chrysene-d12
IS6 = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): C5765.D

Date Analyzed: 05/28/2015

Instrument ID: MSDC

Time Analyzed: 11:45

	40 ppm	IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
	12 HOUR STD	326586	2.46	1422476	3.01	795874	3.86
	UPPER LIMIT	653172	2.96	2844952	3.51	1591748	4.36
	LOWER LIMIT	163293	1.96	711238	2.51	397937	3.36
	LAB SAMPLE ID						
01	CCV040BNA2	387868	2.46	1616724	3.01	926575	3.84
02	BLKS150527-03	344185	2.46	1464506	3.02	879605	3.87
03	LCSS150527-03	414530	2.46	1735226	3.01	995408	3.86
04	E15-04273-001MS	325808	2.46	1343014	3.02	879758	3.87
05	E15-04273-001MSD	337573	2.46	1248722	3.02	841454	3.87
06	E15-04224-002	350842	2.46	1259157	3.02	897241	3.88
07	E15-04273-001	344758	2.46	1430629	3.02	826820	3.88
08	E15-04273-002	366965	2.46	1451975	3.02	139875*	3.84
09	E15-04273-003	347558	2.46	1176228	3.02	205099*	3.86
10	E15-04273-004	295027	2.46	1399396	3.01	710374	3.84
11	E15-04273-005	281174	2.46	1181018	3.01	773108	3.84
12	E15-04273-006	314268	2.46	1447428	3.01	791132	3.84
13	E15-04273-007	237783	2.46	1073177	3.02	42557*	3.82
14	E15-04273-008	256112	2.46	942018	3.01	639446	3.84
15	E15-04273-009	297431	2.46	1224138	3.01	648504	3.83
16	E15-04273-010	299717	2.46	1138409	3.02	123437*	3.83
17	E15-04273-011	307667	2.46	1210122	3.01	631052	3.84
18	E15-04273-012	361902	2.46	1335622	3.01	68902*	3.81
19	E15-04319-001	265887	2.46	1058830	3.01	545861	3.85
20	E15-04140-002	354663	2.46	1345451	3.01	716872	3.84
21	E15-04336-001	301134	2.46	1158879	3.00	644870	3.81
22	E15-04273-001	338538	2.46	1288191	3.01	693486	3.82

IS1 = 1,4-Dichlorobenzene-d4
IS2 = Naphthalene-d8
IS3 = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): C5765.D

Date Analyzed: 05/28/2015

Instrument ID: MSDC

Time Analyzed: 11:45

	40 ppm	IS4 AREA #	RT #	IS5 AREA #	RT #	IS6 AREA #	RT #
	12 HOUR STD	1112986	4.66	819812	6.46	555183	7.78
	UPPER LIMIT	2225972	5.16	1639624	6.96	1110366	8.28
	LOWER LIMIT	556493	4.16	409906	5.96	277592	7.28
	LAB SAMPLE ID						
01	CCV040BNA2	1393546	4.64	1029822	6.42	648901	7.74
02	BLKS150527-03	1439027	4.69	1126519	6.48	555373	7.81
03	LCSS150527-03	1504308	4.66	928181	6.46	488984	7.80
04	E15-04273-001MS	892509	4.67	763287	6.45	477746	7.81
05	E15-04273-001MSD	1006239	4.66	845499	6.45	552737	7.79
06	E15-04224-002	1004679	4.68	910984	6.46	567822	7.78
07	E15-04273-001	872657	4.69	789189	6.48	501788	7.84
08	E15-04273-002	3710*	4.59	2996*	6.38	545*	7.74
09	E15-04273-003	17546*	4.64	9030*	6.42	371024	7.85
10	E15-04273-004	920997	4.62	839566	6.40	441359	7.76
11	E15-04273-005	922221	4.61	723637	6.39	479599	7.73
12	E15-04273-006	850688	4.62	851308	6.40	585674	7.76
13	E15-04273-007	52417*	4.58	8691*	6.31	341448	7.82
14	E15-04273-008	880001	4.61	891445	6.39	574696	7.75
15	E15-04273-009	883446	4.59	714648	6.36	505630	7.71
16	E15-04273-010	11767*	4.60	1251*	6.37	438659	7.79
17	E15-04273-011	959644	4.62	711059	6.39	531396	7.74
18	E15-04273-012	10558*	4.55	2580*	6.30	554770	7.74
19	E15-04319-001	751214	4.65	796070	6.44	563889	7.80
20	E15-04140-002	913935	4.63	1129244	6.41	786829	7.76
21	E15-04336-001	843824	4.57	700897	6.32	494950	7.66
22	E15-04273-001	913557	4.57	847572	6.31	595484	7.67

IS4 = Phenanthrene-d10
IS5 = Chrysene-d12
IS6 = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): C5765.D

Date Analyzed: 05/28/2015

Instrument ID: MSDC

Time Analyzed: 11:45

	40 ppm	IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 AREA #	RT #
	12 HOUR STD	326586	2.46	1422476	3.01	795874	3.86
	UPPER LIMIT	653172	2.96	2844952	3.51	1591748	4.36
	LOWER LIMIT	163293	1.96	711238	2.51	397937	3.36
	LAB SAMPLE ID						
01	E15-04273-002	367021	2.46	1347797	3.01	776871	3.84
02	E15-04273-003	336032	2.46	1230649	3.01	647217	3.83
03	E15-04273-007	330606	2.46	1272187	3.01	623196	3.83
04	E15-04273-010	362665	2.46	1293387	3.01	685864	3.82
05	E15-04273-012	352037	2.46	1324738	3.01	773077	3.86
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20							
21							
22							

IS1 = 1,4-Dichlorobenzene-d4
IS2 = Naphthalene-d8
IS3 = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab File ID (Standard): C5765.D

Date Analyzed: 05/28/2015

Instrument ID: MSDC

Time Analyzed: 11:45

	40 ppm	IS4 AREA #	RT #	IS5 AREA #	RT #	IS6 AREA #	RT #
	12 HOUR STD	1112986	4.66	819812	6.46	555183	7.78
	UPPER LIMIT	2225972	5.16	1639624	6.96	1110366	8.28
	LOWER LIMIT	556493	4.16	409906	5.96	277592	7.28
	LAB SAMPLE ID						
01	E15-04273-002	976774	4.61	916958	6.37	617140	7.74
02	E15-04273-003	884365	4.60	899028	6.36	616307	7.71
03	E15-04273-007	850293	4.58	877357	6.33	581998	7.71
04	E15-04273-010	897346	4.57	891981	6.32	626415	7.69
05	E15-04273-012	944184	4.65	1003038	6.44	685965	7.79
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IS4 = Phenanthrene-d10
IS5 = Chrysene-d12
IS6 = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk
* Values outside of QC limits.

SEMI-VOLATILE ORGANICS SAMPLE DATA

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\05-28-15\
Data File : C5786.D
Acq On : 28 May 2015 17:23
Operator : EDM
Sample : 15-070,E15-04336-001,Xs,15.26g,0,0.5
Misc : 150527-03,05/27/15,05/27/15,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: May 28 17:33:36 2015
Quant Method : C:\MSDCHEM\1\METHODS\CS1215.M
Quant Title : BNA CALIBRATION METHOD
QLast Update : Thu May 21 08:45:42 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	2.46	152	301134	40.00	UG	0.00
23) Naphthalene-d8	3.00	136	1158879	40.00	UG	0.00
43) Acenaphthene-d10	3.81	164	644870	40.00	UG	0.00
66) Phenanthrene-d10	4.57	188	843824	40.00	UG	0.00
82) Chrysene-d12	6.32	240	700897	40.00	UG	-0.01
92) Perylene-d12	7.66	264	494950	40.00	UG	0.00
System Monitoring Compounds						
4) 2-Fluorophenol	1.93	112	515284	46.61	UG	0.00
Spiked Amount 100.000	Range 24 - 101		Recovery = 46.61%			
6) Phenol-d5	2.28	99	691034	51.61	UG	0.00
Spiked Amount 100.000	Range 23 - 108		Recovery = 51.61%			
24) Nitrobenzene-d5	2.69	82	268437	24.95	UG	0.00
Spiked Amount 50.000	Range 26 - 98		Recovery = 49.90%			
47) 2-Fluorobiphenyl	3.47	172	644782	32.92	UG	0.00
Spiked Amount 50.000	Range 34 - 96		Recovery = 65.84%			
70) 2,4,6-Tribromophenol	4.20	330	184066	76.92	UG	0.00
Spiked Amount 100.000	Range 32 - 112		Recovery = 76.92%			
84) Terphenyl-d14	5.45	244	599736	33.72	UG	-0.01
Spiked Amount 50.000	Range 19 - 118		Recovery = 67.44%			

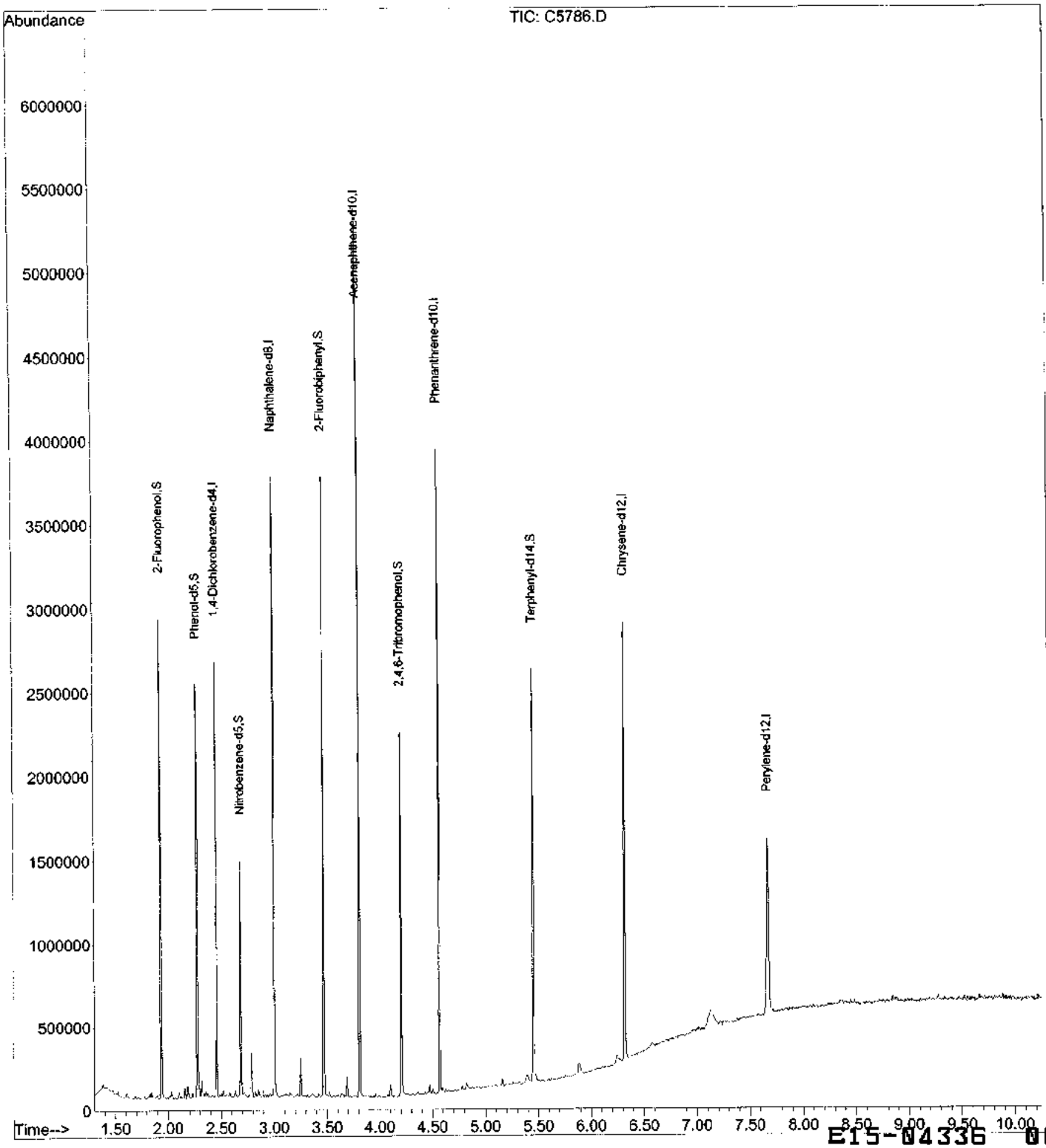
Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\05-28-15\
Data File : C5786.D
Acq On : 28 May 2015 17:23
Operator : EDM
Sample : 15-070,E15-04336-001,Xs,15.26g,0,0.5
Misc : 150527-03,05/27/15,05/27/15,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: May 28 17:33:36 2015
Quant Method : C:\MSDCHEM\1\METHODS\CS1215.M
Quant Title : BNA CALIBRATION METHOD
QLast Update : Thu May 21 08:45:42 2015
Response via : Initial Calibration



E15-04336 0083

Library Search Compound Report

Data Path : C:\MSDChem\1\DATA\05-28-15\
Data File : C5786.D
Acq On : 28 May 2015 17:23
Operator : EDM
Sample : 15-070,E15-04336-001,Xs,15.26g,0,0.5
Misc : 150527-03,05/27/15,05/27/15,1
ALS Vial : 20 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\CS1215.M
Quant Title : BNA CALIBRATION METHOD

TIC Library : C:\DATABASE\NIST05A.L
TIC Integration Parameters: LSCINT.P

No Library Search Compounds Detected

****

CS1215.M Fri May 29 09:12:31 2015 RPT1

INTEGRATED ANALYTICAL LABORATORIES

SEMIVOLATILE ORGANICS

Lab ID: BLKS150527-03
Client ID: .
Date Received: NA
Date Extracted: 05/27/2015
Date Analyzed: 05/28/2015
Data file: C5767.D

GC/MS Column: DB-5
Sample wt/vol: 15.00g
Matrix-Units: Soil-mg/Kg
Dilution Factor: 1
% Moisture: NA

Compound	Concentration	Q	RL	MDL
N-Nitrosodimethylamine	ND		0.033	0.028
Pyridine	ND		0.033	0.031
Benzaldehyde	ND		0.033	0.020
Phenol	ND		0.033	0.021
Aniline	ND		0.033	0.020
Bis(2-chloroethyl) ether	ND		0.033	0.020
2-Chlorophenol	ND		0.033	0.020
1,3-Dichlorobenzene	ND		0.033	0.020
1,4-Dichlorobenzene	ND		0.033	0.027
Benzyl alcohol	ND		0.033	0.020
1,2-Dichlorobenzene	ND		0.033	0.029
2-Methylphenol	ND		0.033	0.023
Bis(2-chloroisopropyl) ether	ND		0.033	0.020
4-Methylphenol **	ND		0.033	0.027
N-Nitrosodi-n-propylamine	ND		0.033	0.027
Acetophenone	ND		0.033	0.027
3-Methylphenol	ND		0.033	0.029
Hexachloroethane	ND		0.033	0.020
Nitrobenzene	ND		0.033	0.028
Isophorone	ND		0.033	0.030
2-Nitrophenol	ND		0.033	0.020
2,4-Dimethylphenol	ND		0.033	0.023
Bis(2-chloroethoxy) methane	ND		0.033	0.020
Benzoic acid	ND		0.033	0.020
2,4-Dimethylaniline	ND		0.033	0.020
2,4-Dichlorophenol	ND		0.033	0.020
1,2,4-Trichlorobenzene	ND		0.033	0.021
Naphthalene	ND		0.033	0.020
4-Chloroaniline	ND		0.033	0.020
4-Aminotoluene	ND		0.033	0.032
Hexachlorobutadiene	ND		0.033	0.020
Caprolactam	ND		0.033	0.021
2-Aminotoluene	ND		0.033	0.029
4-Chloro-3-methylphenol	ND		0.033	0.020
2-Methylnaphthalene	ND		0.033	0.020
Hexachlorocyclopentadiene	ND		0.033	0.020
2,4,6-Trichlorophenol	ND		0.033	0.020
2,4,5-Trichlorophenol	ND		0.033	0.020
1,1'-Biphenyl	ND		0.033	0.020
2-Chloronaphthalene	ND		0.033	0.020
2-Nitroaniline	ND		0.033	0.020
Dimethyl phthalate	ND		0.033	0.025

INTEGRATED ANALYTICAL LABORATORIES

SEMIVOLATILE ORGANICS

Lab ID: BLKS150527-03
Client ID: .
Date Received: NA
Date Extracted: 05/27/2015
Date Analyzed: 05/28/2015
Data file: C5767.D

GC/MS Column: DB-5
Sample wt/vol: 15.00g
Matrix-Units: Soil-mg/Kg
Dilution Factor: 1
% Moisture: NA

Compound	Concentration	Q	RL	MDL
2,6-Dinitrotoluene	ND		0.033	0.020
Acenaphthylene	ND		0.033	0.023
3-Nitroaniline	ND		0.033	0.025
Acenaphthene	ND		0.033	0.025
2,4-Dinitrophenol	ND		0.033	0.024
4-Nitrophenol	ND		0.033	0.027
2,4-Dinitrotoluene	ND		0.033	0.020
Dibenzofuran	ND		0.033	0.020
Diethyl phthalate	ND		0.033	0.031
Fluorene	ND		0.033	0.020
4-Chlorophenyl phenyl ether	ND		0.033	0.020
4-Nitroaniline	ND		0.033	0.020
1,2,4,5-Tetrachlorobenzene	ND		0.033	0.020
2,3,4,6-Tetrachlorophenol	ND		0.033	0.020
4,6-Dinitro-2-methylphenol	ND		0.333	0.020
N-Nitrosodiphenylamine	ND		0.033	0.020
1,2-Diphenylhydrazine	ND		0.033	0.020
4-Bromophenyl phenyl ether	ND		0.033	0.020
Hexachlorobenzene	ND		0.033	0.020
Atrazine	ND		0.033	0.020
Pentachlorophenol	ND		0.033	0.020
Phenanthrene	ND		0.033	0.020
Anthracene	ND		0.033	0.020
Carbazole	ND		0.033	0.020
Di-n-butyl phthalate	ND		0.033	0.020
Fluoranthene	ND		0.033	0.020
Benzidine	ND		0.033	0.020
Pyrene	ND		0.033	0.020
3,3'-Dimethylbenzidine	ND		0.033	0.020
Butyl benzyl phthalate	ND		0.033	0.020
3,3'-Dichlorobenzidine	ND		0.033	0.023
Benzo[a]anthracene	ND		0.033	0.020
Chrysene	ND		0.033	0.020
Bis(2-ethylhexyl) phthalate	ND		0.033	0.020
Di-n-octyl phthalate	ND		0.033	0.024
Benzo[b]fluoranthene	ND		0.033	0.020
Benzo[k]fluoranthene	ND		0.033	0.020
Benzo[a]pyrene	ND		0.033	0.020
Indeno[1,2,3-cd]pyrene	ND		0.033	0.029
Dibenz[a,h]anthracene	ND		0.033	0.020
Benzo[g,h,i]perylene	ND		0.033	0.020

Total Target Compounds (83): 0

D --- Dilution Performed
J --- Value Less than RL & greater than MDL
E --- Exceeds upper level of Calibration curve

** - represents the total of 3+4-Methylphenol
B --- Compound detected in Blank
C --- Common laboratory contamination

INTEGRATED ANALYTICAL LABORATORIES

SEMIVOLATILE ORGANICS
Tentatively Identified Compounds

Lab ID: BLKS150527-03
Client ID: .
Date Received: NA
Date Extracted: 05/27/2015
Date Analyzed: 05/28/2015
Data file: C5767.D

GC/MS Column: DB-5
Sample wt/vol: 15.00g
Matrix-Units: Soil-mg/Kg
Dilution Factor: 1
% Moisture: NA

CAS #	Compound	Estimated Concentration	Q	Retention Time
	No peaks detected			

Total TICs = 0

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\05-28-15\
Data File : C5767.D
Acq On : 28 May 2015 12:20
Operator : EDM
Sample : .,BLKS150527-03,S,15.00g,0,0.5
Misc : 150527-03,05/27/15,NA,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 28 12:32:29 2015
Quant Method : C:\MSDCHEM\1\METHODS\CS1215.M
Quant Title : BNA CALIBRATION METHOD
QLast Update : Thu May 21 08:45:42 2015
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	2.46	152	344185	40.00	UG	0.00
23) Naphthalene-d8	3.02	136	1464506	40.00	UG	0.01
43) Acenaphthene-d10	3.87	164	879605	40.00	UG	0.06
66) Phenanthrene-d10	4.69	188	1439027m	40.00	UG	0.12
82) Chrysene-d12	6.48	240	1126519m	40.00	UG	0.15
92) Perylene-d12	7.81	264	555373	40.00	UG	0.14
System Monitoring Compounds						
4) 2-Fluorophenol	1.93	112	718745	56.88	UG	0.00
Spiked Amount 100.000	Range 24 - 101		Recovery = 56.88%			
6) Phenol-d5	2.27	99	967033	63.19	UG	0.00
Spiked Amount 100.000	Range 23 - 108		Recovery = 63.19%			
24) Nitrobenzene-d5	2.69	82	387613	28.50	UG	0.00
Spiked Amount 50.000	Range 26 - 98		Recovery = 57.00%			
47) 2-Fluorobiphenyl	3.51	172	869075	32.53	UG	0.04
Spiked Amount 50.000	Range 34 - 96		Recovery = 65.06%			
70) 2,4,6-Tribromophenol	4.29	330	293948	72.03	UG	0.09
Spiked Amount 100.000	Range 32 - 112		Recovery = 72.03%			
84) Terphenyl-d14	5.69	244	1262889m	44.18	UG	0.23
Spiked Amount 50.000	Range 19 - 118		Recovery = 88.36%			

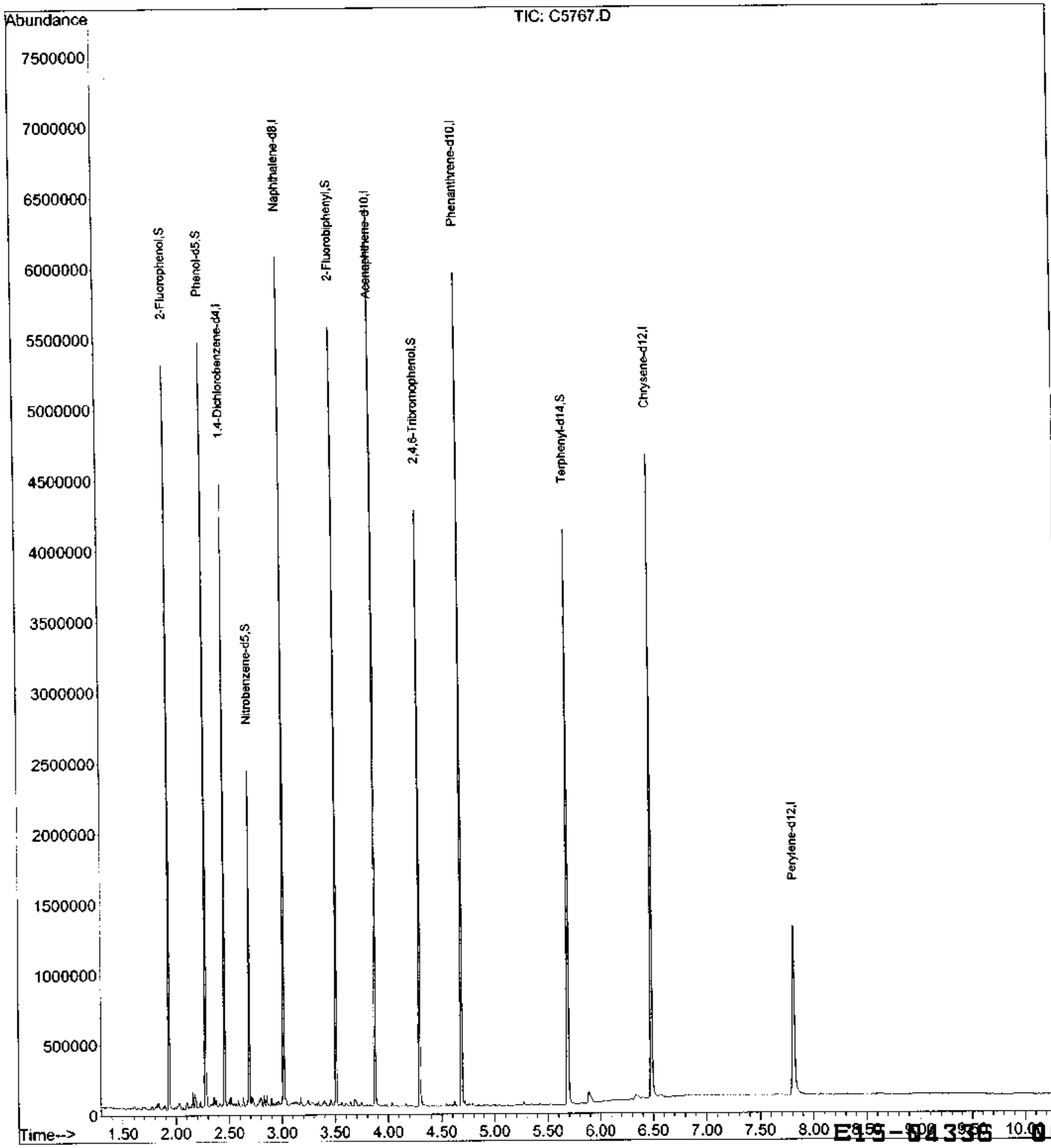
Target Compounds	Qvalue

(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\05-28-15\
Data File : C5767.D
Acq On : 28 May 2015 12:20
Operator : EDM
Sample : .,BLKS150527-03,S,15.00g,0,0.5
Misc : 150527-03,05/27/15,NA,1
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 28 12:32:29 2015
Quant Method : C:\MSDCHEM\1\METHODS\CS1215.M
Quant Title : BNA CALIBRATION METHOD
QLast Update : Thu May 21 08:45:42 2015
Response via : Initial Calibration



E15-04336 0089

Library Search Compound Report

Data Path : C:\MSDChem\1\DATA\05-28-15\
Data File : C5767.D
Acq On : 28 May 2015 12:20
Operator : EDM
Sample : .,BLKS150527-03,S,15.00g,0,0.5
Misc : 150527-03,05/27/15,NA,1
ALS Vial : 1 Sample Multiplier: 1

Quant Method : C:\MSDCHEM\1\METHODS\CS1215.M
Quant Title : BNA CALIBRATION METHOD

TIC Library : C:\DATABASE\NIST05A.L
TIC Integration Parameters: LSCINT.P

No Library Search Compounds Detected

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CS1215.M Thu May 28 12:32:39 2015 RPT1

PCB DATA

PCB QC SUMMARY

PCB SURROGATE PERCENT RECOVERY SUMMARY

Date Analyzed: 05/28/2015

Client ID	Lab Sample ID	Matrix	TCMX 1 % rec	#	DCB 1 % rec	#	TCMX 2 % rec	#	DCB 2 % rec	#
PCB	BLKS150527-04	SOIL	124		121		122		126	
PCB	LCSS150527-04	SOIL	99		136		95		144	
DP-1/7-7	E15-04285-003	SOIL	119		156	M	121		166	M
SP-1/3.5	E15-04285-007	SOIL	85		105		83		136	
SP-2/3.5	E15-04285-008	SOIL	52		70		50		78	
SP-3/3-3	E15-04285-009	SOIL	46		61		55		74	
SP-4/4.5	E15-04285-010	SOIL	89		96		90		329	M
SP-5/4.5	E15-04285-011	SOIL	85		86		88		122	
SS-1/1.5	E15-04271-001	SOIL	105		113		106		145	
SS-2/1.5	E15-04271-002	SOIL	87		98		87		124	
SS-3/1.5	E15-04271-003	SOIL	84		102		84		130	
SS-4/1.5	E15-04271-004	SOIL	85		108		83		123	
15-069	E15-04287-001	SOLID	80		86		80		100	
15-070	E15-04336-001	SOLID	105		123		104		135	
B-203A	E15-04337-003	SOIL	105		123		103		131	

Surrogate QC Limits	Soil	Aqueous/Leachate
TCMX = Tetrachloro-m-xylene	30-150	30-150
DCB = Decachlorobiphenyl	30-150	30-150

Column used to flag recovery values that did not meet criteria
* Values outside of QC limits
D Surrogate diluted out
M Matrix interference

SOIL PCB LCS ACCURACY RECOVERY

Matrix spike Lab sample ID: LCSS150527-04
Date Extracted: 05/27/2015
Date Analyzed: 05/28/2015

GC Column: DB-5/DB1701P
Sample wt/vol: 30g
Matrix-Units: Soil-µg/Kg

Compound	SPIKE ADDED (ug/Kg)	SAMPLE CONC. (ug/Kg)	LCS CONC. (ug/Kg)	LCS % REC #	QC LIMITS REC.
Aroclor-1016	500	0.0	473.1	95	40 - 140
Aroclor-1260	500	0.0	590.4	118	40 - 140

	Aqueous	Soil/Sediment
LCS Recovery Limits	40-140	40-140

Column used to flag recovery values that did not meet criteria
* Values outside of QC limits
$ Values outside of NJ DKQP limits
NC Non calculable

SOIL PCB MS/MSD ACCURACY RECOVERY

Matrix spike Lab sample ID: E15-03987-001
Date Extracted: 05/15/2015
Date Analyzed: 05/18/2015

GC Column: DB-5/DB1701P
Sample wt/vol: 30.26g
Matrix-Units: Soil-µg/Kg

Compound	SPIKE ADDED (ug/Kg)	SAMPLE CONC. (ug/Kg)	MS CONC. (ug/Kg)	MS % REC #	QC LIMITS REC.
Aroclor-1016	500	0.0	327.8	66	40 - 140
Aroclor-1260	500	17.0	320.6	61	40 - 140

Compound	SAMPLE CONC. (ug/Kg)	MSD CONC. (ug/Kg)	MSD % # REC	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Aroclor-1016	0.0	358.6	72	9	50/30	40 - 140
Aroclor-1260	17.0	349.6	67	9	50/30	40 - 140

	Aqueous	Soil/Sediment
MS/MSD Recovery Limits	40-140	40-140
MS/MSD RPD Limits (IAL/DKQP)	50/20	50/30

Column used to flag recovery and RPD values that did not meet criteria

* Values outside of QC limits

$ Values outside of NJ DKQP limits

NC Non calculable

SOIL PCB MS/MSD ACCURACY RECOVERY

Matrix spike Lab sample ID: E15-03886-001
Date Extracted: 05/18/2015
Date Analyzed: 05/19/2015

GC Column: DB-5/DB1701P
Sample wt/vol: 30.43g
Matrix-Units: Soil-µg/Kg

Compound	SPIKE ADDED (ug/Kg)	SAMPLE CONC. (ug/Kg)	MS CONC. (ug/Kg)	MS % REC #	QC LIMITS REC.
Aroclor-1016	500	0.0	409.7	82	40 - 140
Aroclor-1260	500	0.0	416.9	83	40 - 140

Compound	SAMPLE CONC. (ug/Kg)	MSD CONC. (ug/Kg)	MSD % # REC	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Aroclor-1016	0.0	424.6	85	4	50/30	40 - 140
Aroclor-1260	0.0	421.1	84	1	50/30	40 - 140

	Aqueous	Soil/Sediment
MS/MSD Recovery Limits	40-140	40-140
MS/MSD RPD Limits (IAL/DKQP)	50/20	50/30

Column used to flag recovery and RPD values that did not meet criteria
* Values outside of QC limits
$ Values outside of NJ DKQP limits
NC Non calculable

PCB METHOD BLANK SUMMARY

Lab File ID:	Y2502.D	Instrument ID:	GC-Y
Date Extracted:	05/15/2015	Matrix:	SOIL
Date Analyzed:	05/18/2015	Time Analyzed:	16:21

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, LCS or LCSD, MS or MSD:

Client ID	Lab Sample ID	Date Analyzed	Time Analyzed
PCB	LCSS150515-05	05/18/2015	16:38
PCB	03987-001MS	05/18/2015	16:56
PCB	03987-001MSD	05/18/2015	17:13
N-COMP	E15-03987-001	05/18/2015	17:31
S-COMP	E15-03987-002	05/18/2015	17:48

PCB METHOD BLANK SUMMARY

Lab File ID:	Y2518.D	Instrument ID:	GC-Y
Date Extracted:	05/18/2015	Matrix:	SOIL
Date Analyzed:	05/19/2015	Time Analyzed:	15:13

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, LCS or LCSD, MS or MSD:

Client ID	Lab Sample ID	Date Analyzed	Time Analyzed
PCB	LCSS150518-10	05/19/2015	15:30
PCB	03886-001MS	05/19/2015	15:58
PCB	03886-001MSD	05/19/2015	16:15
TSSP-8/2	E15-03886-001	05/19/2015	16:32
TSSP-9/2	E15-03886-002	05/19/2015	16:50
TSSP-10/	E15-03886-003	05/19/2015	17:07

PCB METHOD BLANK SUMMARY

Lab File ID: Y2569.D

Instrument ID: GC-Y

Date Extracted: 05/27/2015

Matrix: SOIL

Date Analyzed: 05/28/2015

Time Analyzed: 16:18

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, LCS or LCSD, MS or MSD:

Client ID	Lab Sample ID	Date Analyzed	Time Analyzed
PCB	LCSS150527-04	05/28/2015	16:35
DP-1/7-7	E15-04285-003	05/28/2015	16:52
SP-1/3.5	E15-04285-007	05/28/2015	17:10
SP-2/3.5	E15-04285-008	05/28/2015	17:27
SP-3/3-3	E15-04285-009	05/28/2015	17:44
SP-4/4.5	E15-04285-010	05/28/2015	18:02
SP-5/4.5	E15-04285-011	05/28/2015	18:19
SS-1/1.5	E15-04271-001	05/28/2015	18:37
SS-2/1.5	E15-04271-002	05/28/2015	18:54
SS-3/1.5	E15-04271-003	05/28/2015	19:11
SS-4/1.5	E15-04271-004	05/28/2015	19:29
15-069	E15-04287-001	05/28/2015	19:46
15-070	E15-04336-001	05/28/2015	20:03
B-203A	E15-04337-003	05/28/2015	20:21

AROCLOR INITIAL CALIBRATION SUMMARY

Date Analyzed: 05/15/2015 **Instrument ID:** GC-Y
GC Column (1st): DB-5

Data File: Y2475.D Y2474.D Y2473.D Y2472.D Y2471.D

Compound	RT OF STANDARDS 10	50	500	1000	2000	MEAN RT	RT WINDOW FROM	TO
Aroclor-1016	3.24	3.24	3.24	3.24	3.24	3.24	3.17	3.31
Aroclor-1016 {2}	4.07	4.07	4.07	4.07	4.07	4.07	4.00	4.14
Aroclor-1016 {3}	4.63	4.63	4.63	4.63	4.63	4.63	4.56	4.70
Aroclor-1016 {4}	5.13	5.13	5.13	5.13	5.13	5.13	5.06	5.20
Aroclor-1016 {5}	5.53	5.53	5.53	5.53	5.53	5.53	5.46	5.60
Aroclor-1221			2.14				2.07	2.21
Aroclor-1221 {2}			3.03				2.96	3.10
Aroclor-1221 {3}			3.16				3.09	3.23
Aroclor-1221 {4}			3.24				3.17	3.31
Aroclor-1221 {5}			3.84				3.77	3.91
Aroclor-1232			3.24				3.17	3.31
Aroclor-1232 {2}			4.07				4.00	4.14
Aroclor-1232 {3}			4.74				4.67	4.81
Aroclor-1232 {4}			5.34				5.27	5.41
Aroclor-1232 {5}			5.53				5.46	5.60
Aroclor-1242			4.07				4.00	4.14
Aroclor-1242 {2}			5.02				4.95	5.09
Aroclor-1242 {3}			5.34				5.27	5.41
Aroclor-1242 {4}			6.04				5.97	6.11
Aroclor-1242 {5}			6.31				6.24	6.38
Aroclor-1248			4.47				4.39	4.55
Aroclor-1248 {2}			5.01				4.93	5.09
Aroclor-1248 {3}			5.34				5.26	5.42
Aroclor-1248 {4}			6.04				5.96	6.12
Aroclor-1248 {5}			6.32				6.24	6.40
Aroclor-1254			6.43				6.35	6.51
Aroclor-1254 {2}			6.87				6.79	6.95
Aroclor-1254 {3}			7.04				6.95	7.13
Aroclor-1254 {4}			7.47				7.38	7.56
Aroclor-1254 {5}			8.33				8.24	8.42
Aroclor-1260	8.33	8.32	8.33	8.33	8.32	8.33	7.43	9.23
Aroclor-1260 {2}	9.00	9.00	9.00	9.00	9.00	9.00	8.10	9.90
Aroclor-1260 {3}	9.48	9.48	9.48	9.48	9.47	9.48	8.58	10.38
Aroclor-1260 {4}	9.96	9.96	9.96	9.96	9.96	9.96	9.06	10.86
Aroclor-1260 {5}	11.02	11.02	11.02	11.02	11.02	11.02	10.12	11.92

AROCLOR INITIAL CALIBRATION SUMMARY

Date Analyzed: 05/15/2015 **Instrument ID:** GC-Y
GC Column (1st): DB-5

Data File: Y2475.D Y2474.D Y2473.D Y2472.D Y2471.D

Compound	CALIBRATION FACTORS 10	50	500	1000	2000	MEAN	%RSD
Aroclor-1016	1113271	1154516	1249395	1318370	1075748	1182260	8.45
Aroclor-1016 {2}	1485786	1659428	1558867	1803553	1409140	1583355	9.72
Aroclor-1016 {3}	2165872	2181515	2216039	2391865	1972638	2185586	6.83
Aroclor-1016 {4}	1112090	1163787	1170501	1217261	1019591	1136646	6.63
Aroclor-1016 {5}	1554710	1682347	1813546	1946944	1638079	1727125	8.94
Aroclor-1221			443725				
Aroclor-1221 {2}			799039				
Aroclor-1221 {3}			467039				
Aroclor-1221 {4}			1771274				
Aroclor-1221 {5}			354195				
Aroclor-1232			1237589				
Aroclor-1232 {2}			676351				
Aroclor-1232 {3}			603875				
Aroclor-1232 {4}			611509				
Aroclor-1232 {5}			887479				
Aroclor-1242			1301824				
Aroclor-1242 {2}			804910				
Aroclor-1242 {3}			1063347				
Aroclor-1242 {4}			2077912				
Aroclor-1242 {5}			1622370				
Aroclor-1248			2702683				
Aroclor-1248 {2}			1502349				
Aroclor-1248 {3}			2933755				
Aroclor-1248 {4}			3620736				
Aroclor-1248 {5}			2694737				
Aroclor-1254			3792617				
Aroclor-1254 {2}			2428493				
Aroclor-1254 {3}			4700329				
Aroclor-1254 {4}			4653201				
Aroclor-1254 {5}			4514667				
Aroclor-1260	3960795	4345854	4655649	5010961	4156258	4425903	9.39
Aroclor-1260 {2}	2397820	2521252	2443889	2845973	2248142	2491415	8.90
Aroclor-1260 {3}	5288741	6293139	6587212	7082445	5822359	6214779	11.12
Aroclor-1260 {4}	2598490	2742722	2881320	3189919	2626460	2807782	8.58
Aroclor-1260 {5}	1416405	1479156	1467822	1622014	1322791	1461638	7.45
					Average %RSD		8.60

AROCLOR INITIAL CALIBRATION SUMMARY

Date Analyzed: 05/15/2015 **Instrument ID:** GC-Y
GC Column (2nd): DB-1701P

Data File: Y2475.C Y2474.C Y2473.C Y2472.C Y2471.C

Compound	RT OF STANDARDS 10	50	500	1000	2000	MEAN RT	RT WINDOW FROM	TO
Aroclor-1016	3.79	3.79	3.79	3.79	3.79	3.79	3.72	3.86
Aroclor-1016 {2}	4.40	4.40	4.39	4.40	4.40	4.40	4.33	4.47
Aroclor-1016 {3}	5.15	5.15	5.15	5.15	5.15	5.15	5.08	5.22
Aroclor-1016 {4}	5.36	5.36	5.36	5.36	5.36	5.36	5.29	5.43
Aroclor-1016 {5}	5.54	5.54	5.54	5.54	5.54	5.54	5.47	5.61
Aroclor-1221			2.45				2.38	2.52
Aroclor-1221 {2}			3.46				3.39	3.53
Aroclor-1221 {3}			3.70				3.63	3.77
Aroclor-1221 {4}			3.79				3.72	3.86
Aroclor-1221 {5}			5.15				5.08	5.22
Aroclor-1232			3.70				3.63	3.77
Aroclor-1232 {2}			4.71				4.64	4.78
Aroclor-1232 {3}			5.15				5.08	5.22
Aroclor-1232 {4}			5.36				5.29	5.43
Aroclor-1232 {5}			6.14				6.07	6.21
Aroclor-1242			4.78				4.71	4.85
Aroclor-1242 {2}			5.54				5.47	5.61
Aroclor-1242 {3}			6.14				6.07	6.21
Aroclor-1242 {4}			6.30				6.23	6.37
Aroclor-1242 {5}			6.85				6.78	6.92
Aroclor-1248			5.15				5.07	5.23
Aroclor-1248 {2}			5.74				5.66	5.82
Aroclor-1248 {3}			6.14				6.06	6.22
Aroclor-1248 {4}			6.30				6.22	6.38
Aroclor-1248 {5}			6.65				6.57	6.73
Aroclor-1254			7.14				7.06	7.22
Aroclor-1254 {2}			7.73				7.65	7.81
Aroclor-1254 {3}			8.35				8.26	8.44
Aroclor-1254 {4}			8.58				8.49	8.67
Aroclor-1254 {5}			9.17				9.08	9.26
Aroclor-1260	7.92	7.92	7.92	7.92	7.92	7.92	7.02	8.82
Aroclor-1260 {2}	8.17	8.17	8.17	8.17	8.17	8.17	7.27	9.07
Aroclor-1260 {3}	9.77	9.77	9.77	9.77	9.77	9.77	8.87	10.67
Aroclor-1260 {4}	10.28	10.28	10.28	10.28	10.28	10.28	9.38	11.18
Aroclor-1260 {5}	10.87	10.87	10.87	10.87	10.87	10.87	9.97	11.77

AROCLOR INITIAL CALIBRATION SUMMARY

Date Analyzed: 05/15/2015 **Instrument ID:** GC-Y
GC Column (2nd): DB-1701P

Data File: Y2475.C Y2474.C Y2473.C Y2472.C Y2471.C

Compound	CALIBRATION FACTORS 10	50	500	1000	2000	MEAN	%RSD
Aroclor-1016	716686	681053	618246	656588	546062	643727	10.15
Aroclor-1016 {2}	1467655	1356349	1226080	1292592	1083253	1285186	11.19
Aroclor-1016 {3}	2997554	2812441	2764262	2974431	2519899	2813717	6.85
Aroclor-1016 {4}	1521567	1342365	1178341	1242418	1036764	1264291	14.36
Aroclor-1016 {5}	1037992	990651	912419	976096	822155	947862	8.80
Aroclor-1221			241476				
Aroclor-1221 {2}			372307				
Aroclor-1221 {3}			233779				
Aroclor-1221 {4}			885912				
Aroclor-1221 {5}			155646				
Aroclor-1232			159642				
Aroclor-1232 {2}			166650				
Aroclor-1232 {3}			1118130				
Aroclor-1232 {4}			503351				
Aroclor-1232 {5}			529410				
Aroclor-1242			436955				
Aroclor-1242 {2}			731643				
Aroclor-1242 {3}			942636				
Aroclor-1242 {4}			811817				
Aroclor-1242 {5}			1534114				
Aroclor-1248			1359227				
Aroclor-1248 {2}			2071043				
Aroclor-1248 {3}			1485347				
Aroclor-1248 {4}			1373967				
Aroclor-1248 {5}			734521				
Aroclor-1254			1844362				
Aroclor-1254 {2}			1516522				
Aroclor-1254 {3}			1445391				
Aroclor-1254 {4}			1011735				
Aroclor-1254 {5}			2436178				
Aroclor-1260	1283921	1292245	1156147	1080102	913058	1145095	13.75
Aroclor-1260 {2}	1844383	1756854	1579852	1654498	1390508	1645219	10.59
Aroclor-1260 {3}	1698002	1667352	1542031	1649855	1398618	1591172	7.71
Aroclor-1260 {4}	3606918	3688394	3439852	3701808	3141875	3515769	6.64
Aroclor-1260 {5}	2727652	2789074	2426306	2608555	2190947	2548507	9.54
					Average %RSD		9.96

AROCLOR INITIAL CALIBRATION SUMMARY

Date Analyzed: 05/15/2015

Instrument ID: GC-Y

GC Column (1st): DB-5

Data File: Y2475.D Y2474.D Y2473.D Y2472.D Y2471.D

Compound	RT OF STANDARDS 10	50	500	1000	2000	MEAN RT	RT WINDOW FROM	TO
Aroclor-1262			8.61				8.49	8.73
Aroclor-1262 {2}			9.48				9.36	9.60
Aroclor-1262 {3}			10.11				9.99	10.23
Aroclor-1262 {4}			10.20				10.08	10.32
Aroclor-1262 {5}			11.02				10.90	11.14
Aroclor-1268			10.11				9.99	10.23
Aroclor-1268 {2}			10.19				10.07	10.31
Aroclor-1268 {3}			10.66				10.54	10.78
Aroclor-1268 {4}			11.02				10.90	11.14
Aroclor-1268 {5}			11.63				11.51	11.75

GC Column (2nd): DB-1701P

Data File: Y2475.C Y2474.C Y2473.C Y2472.C Y2471.C

Compound	RT OF STANDARDS 10	50	500	1000	2000	MEAN RT	RT WINDOW FROM	TO
Aroclor-1262			9.77				9.65	9.89
Aroclor-1262 {2}			10.28				10.16	10.40
Aroclor-1262 {3}			10.78				10.66	10.90
Aroclor-1262 {4}			10.86				10.74	10.98
Aroclor-1262 {5}			11.47				11.35	11.59
Aroclor-1268			10.78				10.66	10.90
Aroclor-1268 {2}			10.86				10.74	10.98
Aroclor-1268 {3}			11.11				10.99	11.23
Aroclor-1268 {4}			11.91				11.79	12.03
Aroclor-1268 {5}			12.34				12.22	12.46

AROCLOR INITIAL CALIBRATION SUMMARY

Date Analyzed: 05/15/2015 **Instrument ID:** GC-Y

GC Column (1st): DB-5

Data File: Y2475.D Y2474.D Y2473.D Y2472.D Y2471.D

Compound	CALIBRATION FACTORS 10	50	500	1000	2000	MEAN	%RSD
Aroclor-1262			3969726				
Aroclor-1262 {2}			7771922				
Aroclor-1262 {3}			2751617				
Aroclor-1262 {4}			3333258				
Aroclor-1262 {5}			2504794				
Aroclor-1268			7221045				
Aroclor-1268 {2}			8250725				
Aroclor-1268 {3}			6287948				
Aroclor-1268 {4}			2543222				
Aroclor-1268 {5}			18125965				

GC Column (2nd): DB-1701P

Data File: Y2475.C Y2474.C Y2473.C Y2472.C Y2471.C

Compound	CALIBRATION FACTORS 10	50	500	1000	2000	MEAN	%RSD
Aroclor-1262			1828678				
Aroclor-1262 {2}			4204114				
Aroclor-1262 {3}			1361133				
Aroclor-1262 {4}			2976598				
Aroclor-1262 {5}			611912				
Aroclor-1268			3874739				
Aroclor-1268 {2}			4163548				
Aroclor-1268 {3}			3257915				
Aroclor-1268 {4}			1359301				
Aroclor-1268 {5}			10104675				

AROCLOR CALIBRATION VERIFICATION SUMMARY

Date/Time Analyzed: 05/18/2015 **Instrument ID:** GC-Y

Data File: Y2501.D **GC Column (1st):** DB-5

Compound	RT	RT WINDOW FROM	RT WINDOW TO	Avg CF	CC CF	%D
Aroclor-1016	3.24	3.17	3.31	1182260	1296967	9.70
Aroclor-1016 {2}	4.07	4.00	4.14	1583355	1465631	7.44
Aroclor-1016 {3}	4.63	4.56	4.70	2185586	2266226	3.69
Aroclor-1016 {4}	5.13	5.06	5.20	1136646	1219436	7.28
Aroclor-1016 {5}	5.53	5.46	5.60	1727125	1869781	8.26
Aroclor-1260	8.33	7.43	9.23	4425903	4607489	4.10
Aroclor-1260 {2}	9.00	8.10	9.90	2491415	2198203	11.77
Aroclor-1260 {3}	9.48	8.58	10.38	6214779	6188761	0.42
Aroclor-1260 {4}	9.96	9.06	10.86	2807782	2751672	2.00
Aroclor-1260 {5}	11.02	10.12	11.92	1461638	1314072	10.10

Data File: Y2501.C **GC Column (2nd):** DB-1701P

Compound	RT	RT WINDOW FROM	RT WINDOW TO	Avg CF	CC CF	%D
Aroclor-1016	3.80	3.72	3.86	643727	649141	0.84
Aroclor-1016 {2}	4.40	4.33	4.47	1285186	1274595	0.82
Aroclor-1016 {3}	5.16	5.08	5.22	2813717	2900402	3.08
Aroclor-1016 {4}	5.37	5.29	5.43	1264291	1232278	2.53
Aroclor-1016 {5}	5.54	5.47	5.61	947862	956319	0.89
Aroclor-1260	7.92	7.02	8.82	1145095	1181906	3.21
Aroclor-1260 {2}	8.17	7.27	9.07	1645219	1597635	2.89
Aroclor-1260 {3}	9.77	8.87	10.67	1591172	1577889	0.83
Aroclor-1260 {4}	10.28	9.38	11.18	3515769	3514326	0.04
Aroclor-1260 {5}	10.87	9.97	11.77	2548507	2518595	1.17

AROCLOR CALIBRATION VERIFICATION SUMMARY

Date/Time Analyzed: 05/18/2015 **Instrument ID:** GC-Y

Data File: Y2510.D **GC Column (1st):** DB-5

Compound	RT	RT WINDOW FROM	TO	Avg CF	CC CF	%D
Aroclor-1016	3.24	3.17	3.31	1182260	1266345	7.11
Aroclor-1016 {2}	4.07	4.00	4.14	1583355	1449996	8.42
Aroclor-1016 {3}	4.63	4.56	4.70	2185586	2236436	2.33
Aroclor-1016 {4}	5.13	5.06	5.20	1136646	1206897	6.18
Aroclor-1016 {5}	5.53	5.46	5.60	1727125	1855998	7.46
Aroclor-1260	8.33	7.43	9.23	4425903	4583526	3.56
Aroclor-1260 {2}	9.00	8.10	9.90	2491415	2191730	12.03
Aroclor-1260 {3}	9.48	8.58	10.38	6214779	6237404	0.36
Aroclor-1260 {4}	9.96	9.06	10.86	2807782	2674858	4.73
Aroclor-1260 {5}	11.02	10.12	11.92	1461638	1347313	7.82

Data File: Y2510.C **GC Column (2nd):** DB-1701P

Compound	RT	RT WINDOW FROM	TO	Avg CF	CC CF	%D
Aroclor-1016	3.79	3.72	3.86	643727	643043	0.11
Aroclor-1016 {2}	4.40	4.33	4.47	1285186	1267485	1.38
Aroclor-1016 {3}	5.15	5.08	5.22	2813717	2880540	2.37
Aroclor-1016 {4}	5.36	5.29	5.43	1264291	1223997	3.19
Aroclor-1016 {5}	5.54	5.47	5.61	947862	950008	0.23
Aroclor-1260	7.92	7.02	8.82	1145095	1178742	2.94
Aroclor-1260 {2}	8.17	7.27	9.07	1645219	1590028	3.35
Aroclor-1260 {3}	9.77	8.87	10.67	1591172	1570679	1.29
Aroclor-1260 {4}	10.28	9.38	11.18	3515769	3505297	0.30
Aroclor-1260 {5}	10.87	9.97	11.77	2548507	2533701	0.58

AROCLOR CALIBRATION VERIFICATION SUMMARY

Date/Time Analyzed: 05/19/2015 **Instrument ID:** GC-Y

Data File: Y2517.D **GC Column (1st):** DB-5

Compound	RT	RT WINDOW FROM	RT WINDOW TO	Avg CF	CC CF	%D
Aroclor-1016	3.24	3.17	3.31	1182260	1349929	14.18
Aroclor-1016 {2}	4.07	4.00	4.14	1583355	1481912	6.41
Aroclor-1016 {3}	4.63	4.56	4.70	2185586	2325951	6.42
Aroclor-1016 {4}	5.13	5.06	5.20	1136646	1251942	10.14
Aroclor-1016 {5}	5.53	5.46	5.60	1727125	1913012	10.76
Aroclor-1260	8.32	7.43	9.23	4425903	4469448	0.98
Aroclor-1260 {2}	9.00	8.10	9.90	2491415	2154587	13.52
Aroclor-1260 {3}	9.47	8.58	10.38	6214779	6097285	1.89
Aroclor-1260 {4}	9.96	9.06	10.86	2807782	2706204	3.62
Aroclor-1260 {5}	11.02	10.12	11.92	1461638	1430508	2.13

Data File: Y2517.C **GC Column (2nd):** DB-1701P

Compound	RT	RT WINDOW FROM	RT WINDOW TO	Avg CF	CC CF	%D
Aroclor-1016	3.79	3.72	3.86	643727	681423	5.86
Aroclor-1016 {2}	4.40	4.33	4.47	1285186	1334535	3.84
Aroclor-1016 {3}	5.15	5.08	5.22	2813717	2993316	6.38
Aroclor-1016 {4}	5.36	5.29	5.43	1264291	1276036	0.93
Aroclor-1016 {5}	5.54	5.47	5.61	947862	989069	4.35
Aroclor-1260	7.92	7.02	8.82	1145095	1193214	4.20
Aroclor-1260 {2}	8.17	7.27	9.07	1645219	1626396	1.14
Aroclor-1260 {3}	9.77	8.87	10.67	1591172	1588421	0.17
Aroclor-1260 {4}	10.28	9.38	11.18	3515769	3588793	2.08
Aroclor-1260 {5}	10.87	9.97	11.77	2548507	2593905	1.78

AROCLOR CALIBRATION VERIFICATION SUMMARY

Date/Time Analyzed: 05/19/2015 **Instrument ID:** GC-Y

Data File: Y2525.D **GC Column (1st):** DB-5

Compound	RT	RT WINDOW FROM	TO	Avg CF	CC CF	%D
Aroclor-1016	3.24	3.17	3.31	1182260	1342890	13.59
Aroclor-1016 {2}	4.07	4.00	4.14	1583355	1535174	3.04
Aroclor-1016 {3}	4.63	4.56	4.70	2185586	2336435	6.90
Aroclor-1016 {4}	5.13	5.06	5.20	1136646	1212871	6.71
Aroclor-1016 {5}	5.53	5.46	5.60	1727125	1866654	8.08
Aroclor-1260	8.33	7.43	9.23	4425903	4189634	5.34
Aroclor-1260 {2}	9.00	8.10	9.90	2491415	2085611	16.29
Aroclor-1260 {3}	9.47	8.58	10.38	6214779	5690413	8.44
Aroclor-1260 {4}	9.96	9.06	10.86	2807782	2514096	10.46
Aroclor-1260 {5}	11.02	10.12	11.92	1461638	1331360	8.91

Data File: Y2525.C **GC Column (2nd):** DB-1701P

Compound	RT	RT WINDOW FROM	TO	Avg CF	CC CF	%D
Aroclor-1016	3.79	3.72	3.86	643727	669801	4.05
Aroclor-1016 {2}	4.40	4.33	4.47	1285186	1295200	0.78
Aroclor-1016 {3}	5.16	5.08	5.22	2813717	2933705	4.26
Aroclor-1016 {4}	5.37	5.29	5.43	1264291	1258126	0.49
Aroclor-1016 {5}	5.54	5.47	5.61	947862	979344	3.32
Aroclor-1260	7.92	7.02	8.82	1145095	1142227	0.25
Aroclor-1260 {2}	8.17	7.27	9.07	1645219	1518815	7.68
Aroclor-1260 {3}	9.77	8.87	10.67	1591172	1486507	6.58
Aroclor-1260 {4}	10.28	9.38	11.18	3515769	3412167	2.95
Aroclor-1260 {5}	10.87	9.97	11.77	2548507	2462456	3.38

AROCLOR CALIBRATION VERIFICATION SUMMARY

Date/Time Analyzed: 05/28/2015 **Instrument ID:** GC-Y

Data File: Y2568.D **GC Column (1st):** DB-5

Compound	RT	RT WINDOW FROM	TO	Avg CF	CC CF	%D
Aroclor-1016	3.24	3.17	3.31	1182260	1324687	12.05
Aroclor-1016 {2}	4.07	4.00	4.14	1583355	1388692	12.29
Aroclor-1016 {3}	4.63	4.56	4.70	2185586	2321247	6.21
Aroclor-1016 {4}	5.14	5.06	5.20	1136646	1263122	11.13
Aroclor-1016 {5}	5.53	5.46	5.60	1727125	1933430	11.94
Aroclor-1260	8.33	7.43	9.23	4425903	5015984	13.33
Aroclor-1260 {2}	9.00	8.10	9.90	2491415	2233406	10.36
Aroclor-1260 {3}	9.48	8.58	10.38	6214779	7237790	16.46
Aroclor-1260 {4}	9.96	9.06	10.86	2807782	3222209	14.76
Aroclor-1260 {5}	11.02	10.12	11.92	1461638	1617963	10.70

Data File: Y2568.C **GC Column (2nd):** DB-1701P

Compound	RT	RT WINDOW FROM	TO	Avg CF	CC CF	%D
Aroclor-1016	3.79	3.72	3.86	643727	666894	3.60
Aroclor-1016 {2}	4.40	4.33	4.47	1285186	1298668	1.05
Aroclor-1016 {3}	5.15	5.08	5.22	2813717	2990647	6.29
Aroclor-1016 {4}	5.36	5.29	5.43	1264291	1264559	0.02
Aroclor-1016 {5}	5.54	5.47	5.61	947862	987964	4.23
Aroclor-1260	7.92	7.02	8.82	1145095	1204893	5.22
Aroclor-1260 {2}	8.17	7.27	9.07	1645219	1650270	0.31
Aroclor-1260 {3}	9.77	8.87	10.67	1591172	1695403	6.55
Aroclor-1260 {4}	10.28	9.38	11.18	3515769	3903876	11.04
Aroclor-1260 {5}	10.87	9.97	11.77	2548507	2795453	9.69

AROCLOR CALIBRATION VERIFICATION SUMMARY

Date/Time Analyzed: 05/28/2015 **Instrument ID:** GC-Y

Data File: Y2586.D **GC Column (1st):** DB-5

Compound	RT	RT WINDOW FROM	RT WINDOW TO	Avg CF	CC CF	%D
Aroclor-1016	3.24	3.17	3.31	1182260	1332084	12.67
Aroclor-1016 {2}	4.07	4.00	4.14	1583355	1375172	13.15
Aroclor-1016 {3}	4.63	4.56	4.70	2185586	2311185	5.75
Aroclor-1016 {4}	5.13	5.06	5.20	1136646	1289440	13.44
Aroclor-1016 {5}	5.53	5.46	5.60	1727125	1920602	11.20
Aroclor-1260	8.33	7.43	9.23	4425903	4695677	6.10
Aroclor-1260 {2}	9.01	8.10	9.90	2491415	2021635	18.86
Aroclor-1260 {3}	9.48	8.58	10.38	6214779	6507438	4.71
Aroclor-1260 {4}	9.96	9.06	10.86	2807782	2787090	0.74
Aroclor-1260 {5}	11.02	10.12	11.92	1461638	1351352	7.55

Data File: Y2586.C **GC Column (2nd):** DB-1701P

Compound	RT	RT WINDOW FROM	RT WINDOW TO	Avg CF	CC CF	%D
Aroclor-1016	3.79	3.72	3.86	643727	670760	4.20
Aroclor-1016 {2}	4.40	4.33	4.47	1285186	1301431	1.26
Aroclor-1016 {3}	5.15	5.08	5.22	2813717	2958341	5.14
Aroclor-1016 {4}	5.36	5.29	5.43	1264291	1265856	0.12
Aroclor-1016 {5}	5.54	5.47	5.61	947862	981940	3.60
Aroclor-1260	7.92	7.02	8.82	1145095	1153498	0.73
Aroclor-1260 {2}	8.17	7.27	9.07	1645219	1570766	4.53
Aroclor-1260 {3}	9.77	8.87	10.67	1591172	1538971	3.28
Aroclor-1260 {4}	10.28	9.38	11.18	3515769	3410344	3.00
Aroclor-1260 {5}	10.87	9.97	11.77	2548507	2428644	4.70

PCB RETENTION TIME SHIFT SUMMARY

Instrument ID: GC-Y **Column:** DB-5/DB-1701P

Surrogate RT from initial calibration :

TCMX 1 2.77 **DCB 1** 12.11 **TCMX 2** 2.92 **DCB 2** 12.57

Client ID	Lab Sample ID	Date Analyzed	Time Analyzed	TCMX 1 RT	#	DCB 1 RT	#	TCMX 2 RT	#	DCB 2 RT	#
PCB	BLKS150527-04	05/28/2015	16:18	2.77		12.11		2.92		12.57	
PCB	LCSS150527-04	05/28/2015	16:35	2.77		12.11		2.91		12.56	
DP-1/7-7	E15-04285-003	05/28/2015	16:52	2.77		12.11		2.91		12.56	
SP-1/3.5	E15-04285-007	05/28/2015	17:10	2.77		12.11		2.91		12.56	
SP-2/3.5	E15-04285-008	05/28/2015	17:27	2.77		12.11		2.91		12.56	
SP-3/3-3	E15-04285-009	05/28/2015	17:44	2.79		12.11		2.92		12.56	
SP-4/4.5	E15-04285-010	05/28/2015	18:02	2.78		12.11		2.91		12.56	
SP-5/4.5	E15-04285-011	05/28/2015	18:19	2.77		12.11		2.91		12.56	
SS-1/1.5	E15-04271-001	05/28/2015	18:37	2.77		12.11		2.91		12.56	
SS-2/1.5	E15-04271-002	05/28/2015	18:54	2.77		12.11		2.91		12.56	
SS-3/1.5	E15-04271-003	05/28/2015	19:11	2.77		12.11		2.91		12.56	
SS-4/1.5	E15-04271-004	05/28/2015	19:29	2.77		12.11		2.91		12.56	
15-069	E15-04287-001	05/28/2015	19:46	2.77		12.11		2.91		12.56	
15-070	E15-04336-001	05/28/2015	20:03	2.77		12.11		2.90		12.56	
B-203A	E15-04337-003	05/28/2015	20:21	2.77		12.11		2.90		12.56	

Surrogate QC Limits

TCMX = Tetrachloro-m-xylene (± 0.10 Minutes)

DCB = Decachlorobiphenyl (± 0.10 Minutes)

\# Column to be used to flag recovery values
* Values outside of QC limits
D Surrogate diluted out
M Matrix interference

PCB SAMPLE DATA

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\05-28-15\
Data File : Y2582.D
Signal(s) : Signal #1: ECD1B.CH Signal #2: ECD2A.CH
Acq On : 28 May 2015 20:03
Operator : JS
Sample : 15-070,E15-04336-001,Xs,30.44g,0.5
Misc : 150527-04,05/27/15,05/27/15,1
ALS Vial : 20 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: May 29 09:05:28 2015
Quant Method : C:\MSDCHEM\1\METHODS\YPCB0515.M
Quant Title :
QLast Update : Fri May 15 14:38:54 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	ng#1	ng#2
System Monitoring Compounds						
1) S TCMX	2.77	2.90	14667.0E6	7535.4E6	210.121	207.872
Spiked Amount 200.000			Recovery	=	105.06%	103.94%
2) S DCB	12.11	12.56	4981.6E6	3270.6E6	246.419	269.219
Spiked Amount 200.000			Recovery	=	123.21%	134.61%
Target Compounds						
Sum Aroclor-1016			0	0	N.D.	N.D.
Average Aroclor-1016					0.000	0.000
Sum Aroclor-1221			0	0	N.D.	N.D.
Average Aroclor-1221					0.000	0.000
Sum Aroclor-1232			0	0	N.D.	N.D.
Average Aroclor-1232					0.000	0.000
Sum Aroclor-1242			0	0	N.D.	N.D.
Average Aroclor-1242					0.000	0.000
Sum Aroclor-1248			0	0	N.D.	N.D.
Average Aroclor-1248					0.000	0.000
Sum Aroclor-1254			0	0	N.D.	N.D.
Average Aroclor-1254					0.000	0.000
Sum Aroclor-1260			0	0	N.D.	N.D.
Average Aroclor-1260					0.000	0.000
Sum Aroclor-1262			0	0	N.D.	N.D.
Average Aroclor-1262					0.000	0.000
Sum Aroclor-1268			0	0	N.D.	N.D.
Average Aroclor-1268					0.000	0.000

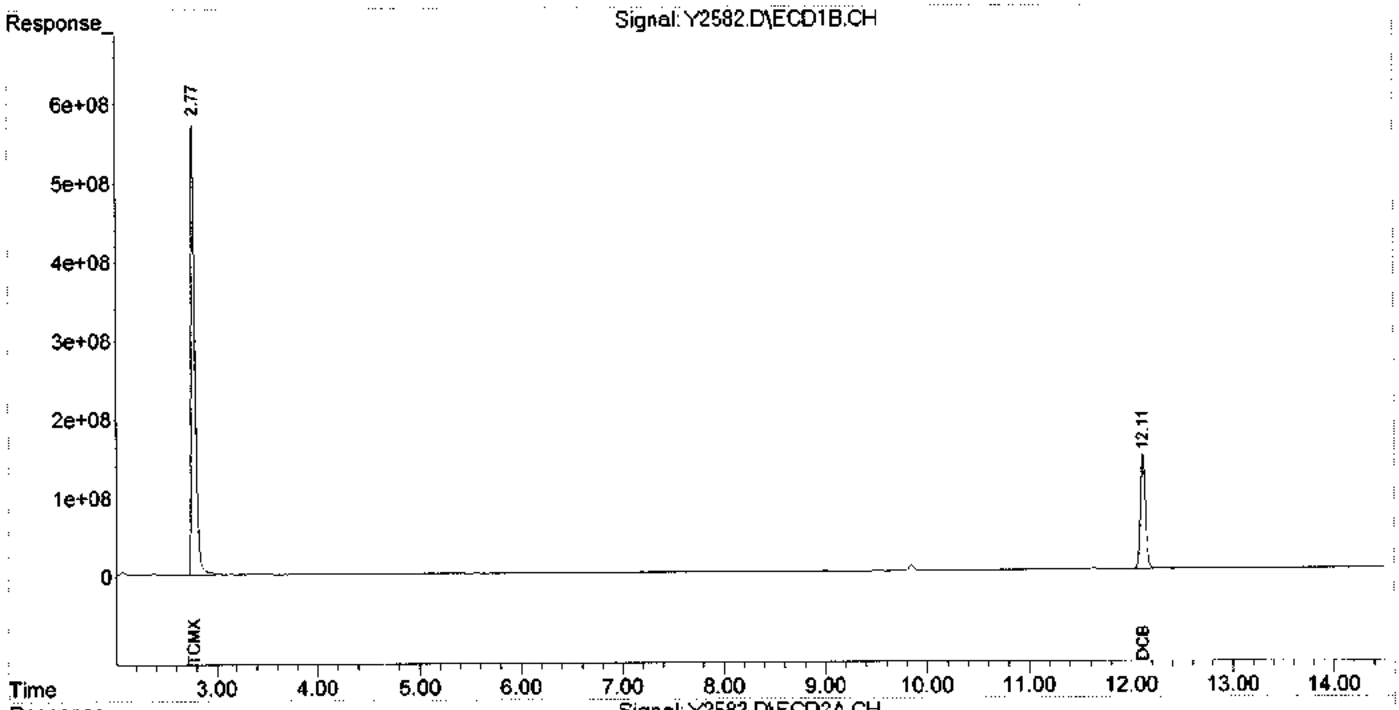
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

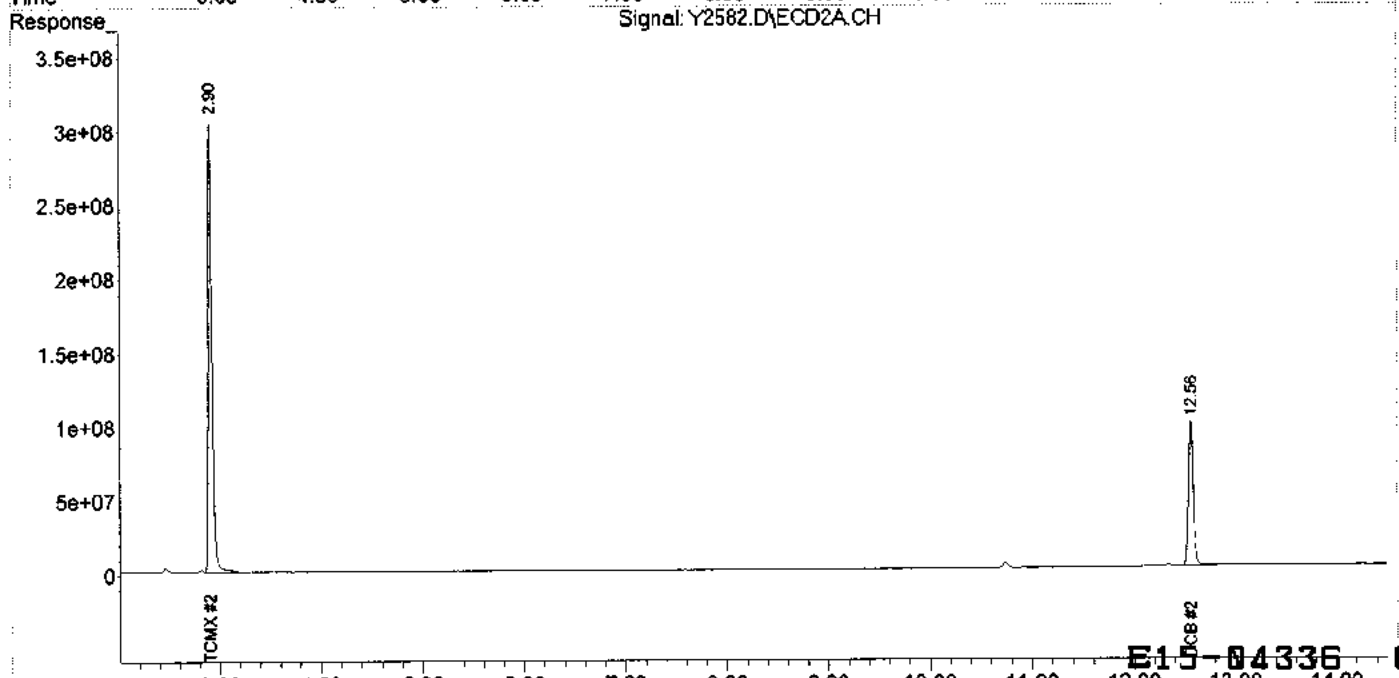
Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\05-28-15\
Data File : Y2582.D
Signal(s) : Signal #1: ECD1B.CH Signal #2: ECD2A.CH
Acq On : 28 May 2015 20:03
Operator : JS
Sample : 15-070,E15-04336-001,Xs,30.44g,0.5
Misc : 150527-04.05/27/15.05/27/15,1
ALS Vial : 20 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: May 29 09:05:28 2015
Quant Method : C:\MSDCHEM\1\METHODS\YPCB0515.M
Quant Title :
QLast Update : Fri May 15 14:38:54 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





INTEGRATED ANALYTICAL LABORATORIES

PCB's

Lab ID: BLKS150515-05
Client ID: PCB
Date Received: NA
Date Extracted: 05/15/2015
Date Analyzed: 05/18/2015
Data file: Y2502.D

GC Column: DB-5/DB1701P
Sample wt/vol: 30g
Matrix-Units: Soil-mg/Kg
Dilution Factor: 1
% Moisture: NA

Compound	Concentration	Q	RL	MDL
Aroclor-1016	ND		0.00167	0.000668
Aroclor-1221	ND		0.00167	0.000668
Aroclor-1232	ND		0.00167	0.000668
Aroclor-1242	ND		0.00167	0.000668
Aroclor-1248	ND		0.00167	0.000668
Aroclor-1254	ND		0.00167	0.000668
Aroclor-1260	ND		0.00167	0.000668
Aroclor-1262	ND		0.00167	0.000668
Aroclor-1268	ND		0.00167	0.000668
PCBs	ND		0.00167	0.000668

D --- Dilution Performed
J --- Value Less than RL & greater than MDL
E --- Exceeds upper level of Calibration curve

B --- Compound detected in Blank
C --- Common laboratory contamination

INTEGRATED ANALYTICAL LABORATORIES

PCB's

Lab ID: BLKS150518-10
Client ID: PCB
Date Received: NA
Date Extracted: 05/18/2015
Date Analyzed: 05/19/2015
Data file: Y2518.D

GC Column: DB-5/DB1701P
Sample wt/vol: 30g
Matrix-Units: Soil-mg/Kg
Dilution Factor: 1
% Moisture: NA

Compound	Concentration	Q	RL	MDL
Aroclor-1016	ND		0.00167	0.000668
Aroclor-1221	ND		0.00167	0.000668
Aroclor-1232	ND		0.00167	0.000668
Aroclor-1242	ND		0.00167	0.000668
Aroclor-1248	ND		0.00167	0.000668
Aroclor-1254	ND		0.00167	0.000668
Aroclor-1260	ND		0.00167	0.000668
Aroclor-1262	ND		0.00167	0.000668
Aroclor-1268	ND		0.00167	0.000668
PCBs	ND		0.00167	0.000668

D --- Dilution Performed
J --- Value Less than RL & greater than MDL
E --- Exceeds upper level of Calibration curve

B --- Compound detected in Blank
C --- Common laboratory contamination

INTEGRATED ANALYTICAL LABORATORIES

PCB's

Lab ID: BLKS150527-04
Client ID: PCB
Date Received: NA
Date Extracted: 05/27/2015
Date Analyzed: 05/28/2015
Data file: Y2569.D

GC Column: DB-5/DB1701P
Sample wt/vol: 30g
Matrix-Units: Soil-mg/Kg
Dilution Factor: 1
% Moisture: NA

Compound	Concentration	Q	RL	MDL
Aroclor-1016	ND		0.00167	0.000668
Aroclor-1221	ND		0.00167	0.000668
Aroclor-1232	ND		0.00167	0.000668
Aroclor-1242	ND		0.00167	0.000668
Aroclor-1248	ND		0.00167	0.000668
Aroclor-1254	ND		0.00167	0.000668
Aroclor-1260	ND		0.00167	0.000668
Aroclor-1262	ND		0.00167	0.000668
Aroclor-1268	ND		0.00167	0.000668
PCBs	ND		0.00167	0.000668

D --- Dilution Performed
J --- Value Less than RL & greater than MDL
E --- Exceeds upper level of Calibration curve

B --- Compound detected in Blank
C --- Common laboratory contamination

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\05-28-15\
Data File : Y2569.D
Signal(s) : Signal #1: ECD1B.CH Signal #2: ECD2A.CH
Acq On : 28 May 2015 16:18
Operator : JS
Sample : PCB,BLKS150527-04,S,30g,0.5
Misc : NA,05/27/15,NA,1
ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: May 28 16:45:35 2015
Quant Method : C:\MSDCHEM\1\METHODS\YPCB0515.M
Quant Title :
QLast Update : Fri May 15 14:38:54 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	ng#1	ng#2
System Monitoring Compounds						
1) S TCMX	2.77	2.92	17293.8E6	8846.7E6	247.753	244.045
Spiked Amount 200.000			Recovery	=	123.88%	122.02%
2) S DCB	12.11	12.57	4902.6E6	3059.5E6	242.512	251.837
Spiked Amount 200.000			Recovery	=	121.26%	125.92%
Target Compounds						
Sum Aroclor-1016			0	0	N.D.	N.D.
Average Aroclor-1016					0.000	0.000
Sum Aroclor-1221			0	0	N.D.	N.D.
Average Aroclor-1221					0.000	0.000
Sum Aroclor-1232			0	0	N.D.	N.D.
Average Aroclor-1232					0.000	0.000
Sum Aroclor-1242			0	0	N.D.	N.D.
Average Aroclor-1242					0.000	0.000
Sum Aroclor-1248			0	0	N.D.	N.D.
Average Aroclor-1248					0.000	0.000
Sum Aroclor-1254			0	0	N.D.	N.D.
Average Aroclor-1254					0.000	0.000
Sum Aroclor-1260			0	0	N.D.	N.D.
Average Aroclor-1260					0.000	0.000
Sum Aroclor-1262			0	0	N.D.	N.D.
Average Aroclor-1262					0.000	0.000
Sum Aroclor-1268			0	0	N.D.	N.D.
Average Aroclor-1268					0.000	0.000

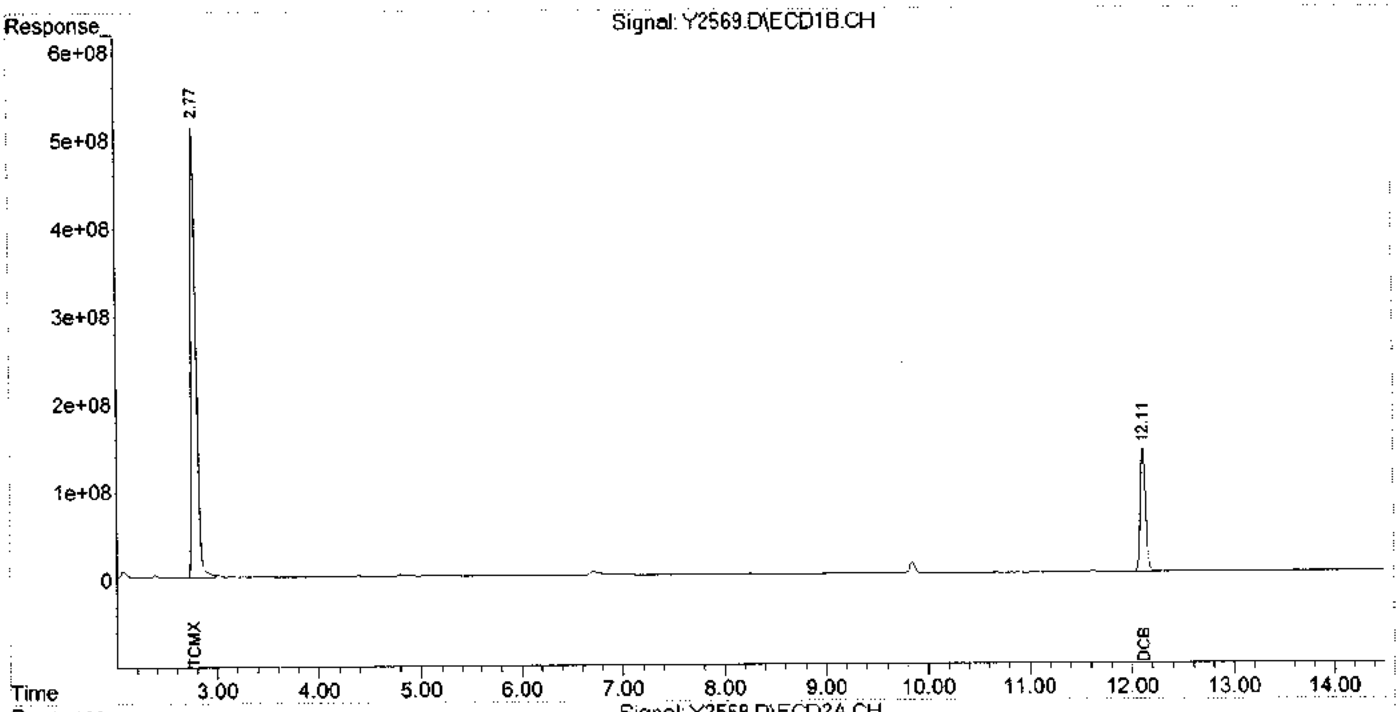
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

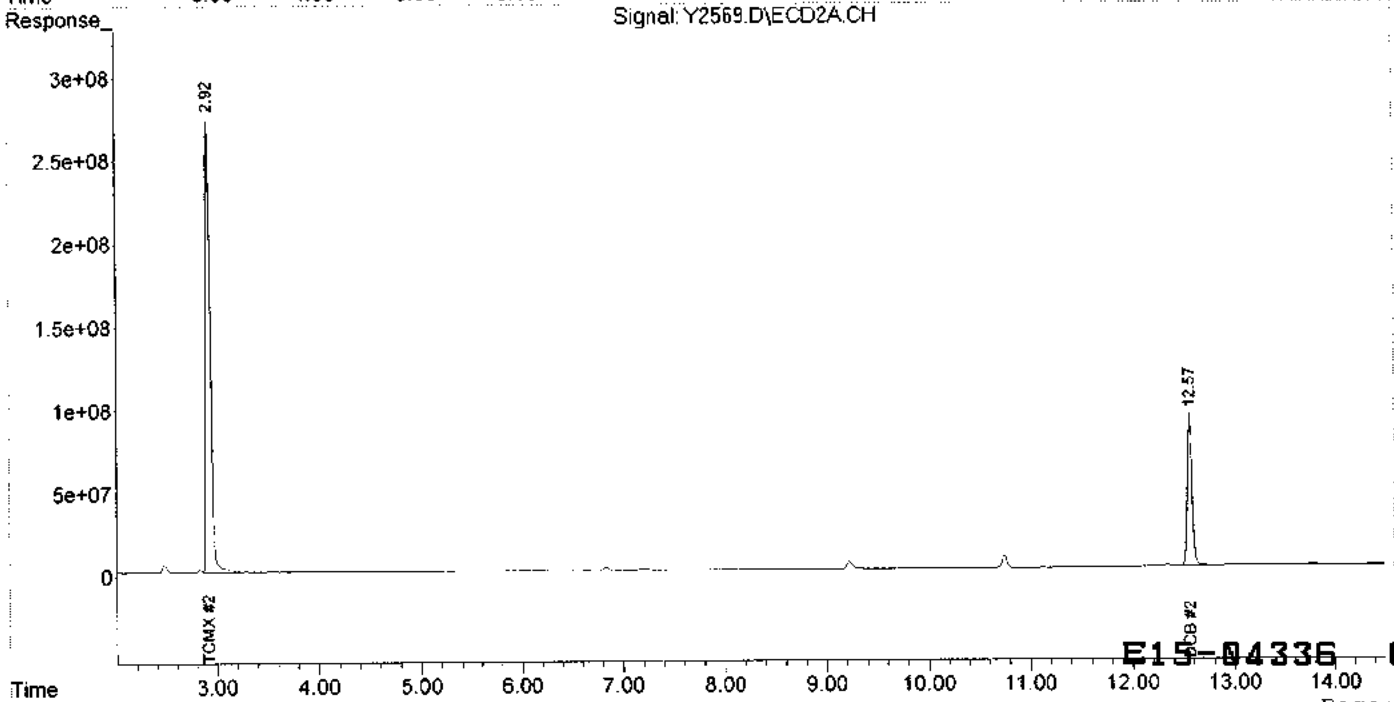
Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\05-28-15\
Data File : Y2569.D
Signal(s) : Signal #1: ECD1B.CH Signal #2: ECD2A.CH
Acq On : 28 May 2015 16:18
Operator : JS
Sample : PCB,BLKS150527-04.S,30g,0.5
Misc : NA,05/27/15,NA,1
ALS Vial : 7 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: May 28 16:45:35 2015
Quant Method : C:\MSDCHEM\1\METHODS\YPCB0515.M
Quant Title :
QLast Update : Fri May 15 14:38:54 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





PESTICIDE DATA

PESTICIDE QC SUMMARY

PESTICIDE SURROGATE PERCENT RECOVERY SUMMARY

Date Analyzed: 05/29/2015

Client ID	Lab Sample ID	Matrix	TCMX 1 % rec	#	DCB 1 % rec	#	TCMX 2 % rec	#	DCB 2 % rec	#
Pest	BLKS150527-04	SOIL	123		116		126		114	
Pest	LCSS150527-04	SOIL	100		118		102		115	
Pest	04285-003MS	SOIL	99		110		102		125	
Pest	04285-003MSD	SOIL	97		106		100		111	
DP-1/7-7	E15-04285-003	SOIL	128		141		133		148	
SP-1/3.5	E15-04285-007	SOIL	91		109		94		110	
SP-2/3.5	E15-04285-008	SOIL	51		62		51		62	
SP-3/3-3	E15-04285-009	SOIL	59		82		58		107	
SP-4/4.5	E15-04285-010	SOIL	100		106		98		123	
SP-5/4.5	E15-04285-011	SOIL	91		113		90		137	
SS-1/1.5	E15-04271-001	SOIL	108		119		111		123	
SS-2/1.5	E15-04271-002	SOIL	92		95		94		99	
SS-3/1.5	E15-04271-003	SOIL	86		95		88		107	
SS-4/1.5	E15-04271-004	SOIL	85		108		87		107	
15-069	E15-04287-001	SOLID	86		98		89		95	
15-070	E15-04336-001	SOLID	110		131		114		130	
B-203A	E15-04337-003	SOIL	108		133		112		129	

Surrogate QC Limits	Soil	Aqueous/Leachate
TCMX = Tetrachloro-m-xylene	30-150	30-150
DCB = Decachlorobiphenyl	30-150	30-150

\# Column used to flag recovery values that did not meet criteria
* Values outside of QC limits
D Surrogate diluted out
M Matrix interference

INTEGRATED ANALYTICAL LABORATORIES

LCS ACCURACY REPORT

Lab ID: LCSS150527-04
Date Received: NA
Date Extracted: 05/27/2015
Date Analyzed: 05/29/2015
Data file: O9514.D

GC Column: RTX-CLP1/CLP2
Sample wt/vol: 30g
Matrix-Units: Soil-µg/Kg
% Moisture: NA
Dilution Factor: 1

Compound	Conc. Add	Sample	MS Conc.	%Rec.	#
alpha-BHC	100.0	0.0	77.8	78	
beta-BHC	100.0	0.0	75.3	75	
gamma-BHC (Lindane)	100.0	0.0	83.3	83	
delta-BHC	100.0	0.0	84.4	84	
Heptachlor	100.0	0.0	77.7	78	
Aldrin	100.0	0.0	81.7	82	
Heptachlor epoxide	100.0	0.0	89.2	89	
Endosulfan I	100.0	0.0	90.1	90	
4,4'-DDE	100.0	0.0	96.3	96	
Dieldrin	100.0	0.0	83.7	84	
Endrin	100.0	0.0	96.7	97	
Endosulfan II	100.0	0.0	102.3	102	
4,4'-DDD	100.0	0.0	99.8	100	
Endrin aldehyde	100.0	0.0	92.5	93	
Endosulfan sulfate	100.0	0.0	102.0	102	
4,4'-DDT	100.0	0.0	103.4	103	
Endrin ketone	100.0	0.0	98.1	98	
Methoxychlor	100.0	0.0	101.8	102	
alpha-Chlordane	100.0	0.0	88.4	88	
gamma-Chlordane	100.0	0.0	90.2	90	

	Aqueous	Soil/Sediment
LCS Recovery Limits	30-140	30-140
NJ DKQP Limits	40-140	40-140

Column used to flag recovery values that did not meet criteria

* Values outside of QC limits

$ Values outside of NJ DKQP limits

INTEGRATED ANALYTICAL LABORATORIES

MS/MSD ACCURACY REPORT

Lab ID: E15-04285-003
Date Received: 05/22/2015
Date Extracted: 05/27/2015
Date Analyzed: 05/29/2015
MS Data file: O9515.D
MSD Data file: O9516.D

GC Column: RTX-CLP1/CLP2
Sample wt/vol: 30.67g
Matrix-Units: Soil-µg/Kg
% Moisture: 8.50
Dilution Factor: 1
Dilution Factor: 1

Compound	Conc. Add	Sample	Conc. MS	%Rec. MS	#	Conc. MSD	%Rec. MSD	#	%RPD	#
alpha-BHC	100.0	0.0	38.6	39		38.0	38		2	
beta-BHC	100.0	0.0	40.8	41		40.7	41		0	
gamma-BHC (Lindane)	100.0	0.0	41.1	41		40.6	41		1	
delta-BHC	100.0	0.0	41.6	42		41.8	42		0	
Heptachlor	100.0	0.0	37.9	38		36.8	37		3	
Aldrin	100.0	0.0	40.5	41		40.3	40		0	
Heptachlor epoxide	100.0	0.0	42.3	42		42.4	42		0	
Endosulfan I	100.0	0.0	41.3	41		41.2	41		0	
4,4'-DDE	100.0	0.0	43.9	44		45.0	45		2	
Dieldrin	100.0	0.0	37.7	38		38.0	38		1	
Endrin	100.0	0.0	48.8	49		49.1	49		1	
Endosulfan II	100.0	0.0	46.1	46		45.7	46		1	
4,4'-DDD	100.0	0.0	48.8	49		51.3	51		5	
Endrin aldehyde	100.0	0.0	39.9	40		40.5	41		1	
Endosulfan sulfate	100.0	0.0	45.6	46		45.8	46		0	
4,4'-DDT	100.0	0.0	43.3	43		42.3	42		2	
Endrin ketone	100.0	0.0	48.3	48		48.2	48		0	
Methoxychlor	100.0	0.0	54.6	55		53.5	54		2	
alpha-Chlordane	100.0	0.0	42.7	43		42.8	43		0	
gamma-Chlordane	100.0	0.0	40.9	41		41.2	41		1	

	Aqueous	Soil/Sediment
MS/MSD Recovery Limits	30-150	30-150
MS/MSD RPD Limits (IAL/DKQP)	30/20	30/30

Column used to flag recovery and RPD values that did not meet criteria

* Values outside of QC limits

$ Values outside of NJ DKQP limits

PESTICIDE METHOD BLANK SUMMARY

Lab File ID:	O9513.D	Instrument ID:	GC-O
Date Extracted:	05/27/2015	Matrix:	SOIL
Date Analyzed:	05/29/2015	Time Analyzed:	10:08

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, LCS or LCSD, MS or MSD:

Client ID	Lab Sample ID	Date Analyzed	Time Analyzed
Pest	LCSS150527-04	05/29/2015	10:20
Pest	04285-003MS	05/29/2015	10:41
Pest	04285-003MSD	05/29/2015	10:54
DP-1/7-7	E15-04285-003	05/29/2015	11:07
SP-1/3.5	E15-04285-007	05/29/2015	11:19
SP-2/3.5	E15-04285-008	05/29/2015	11:32
SP-3/3-3	E15-04285-009	05/29/2015	11:45
SP-4/4.5	E15-04285-010	05/29/2015	11:57
SP-5/4.5	E15-04285-011	05/29/2015	12:10
SS-1/1.5	E15-04271-001	05/29/2015	12:22
SS-2/1.5	E15-04271-002	05/29/2015	12:35
SS-3/1.5	E15-04271-003	05/29/2015	12:48
SS-4/1.5	E15-04271-004	05/29/2015	13:01
15-069	E15-04287-001	05/29/2015	13:13
15-070	E15-04336-001	05/29/2015	13:26
B-203A	E15-04337-003	05/29/2015	13:39

PESTICIDE INITIAL CALIBRATION SUMMARY

Date Analyzed: 05/26/2015 **Instrument ID:** GC-O
GC Column (1st): RTX-CLP1

Data File: O9451.D O9450.D O9449.D O9448.D O9447.D

Compound	RT OF STANDARDS					MEAN	RT WI NDOW	
	2	50	100	200	300	RT	FROM	TO
alpha-BHC	2.12	2.12	2.12	2.12	2.12	2.12	2.06	2.18
beta-BHC	2.37	2.37	2.37	2.37	2.37	2.37	2.31	2.43
gamma-BHC	2.32	2.32	2.32	2.32	2.32	2.32	2.26	2.38
delta-BHC	2.50	2.50	2.50	2.50	2.50	2.50	2.44	2.56
Heptachlor	2.65	2.65	2.65	2.65	2.65	2.65	2.57	2.73
Aldrin	2.88	2.88	2.88	2.88	2.88	2.88	2.80	2.96
Heptachlor epoxide	3.37	3.37	3.37	3.37	3.37	3.37	3.29	3.45
Endosulfan I	3.71	3.71	3.71	3.71	3.71	3.71	3.63	3.79
4,4'-DDE	3.66	3.66	3.66	3.65	3.65	3.66	3.56	3.76
Dieldrin	3.93	3.93	3.93	3.93	3.93	3.93	3.83	4.03
Endrin	4.14	4.14	4.14	4.14	4.14	4.14	4.04	4.24
Endosulfan II	4.35	4.35	4.35	4.35	4.35	4.35	4.25	4.45
4,4'-DDD	4.21	4.21	4.21	4.21	4.21	4.21	4.11	4.31
Endrin aldehyde	4.76	4.76	4.76	4.76	4.76	4.76	4.64	4.88
Endosulfan sulfate	5.20	5.20	5.20	5.20	5.20	5.20	5.08	5.32
4,4'-DDT	4.47	4.47	4.47	4.47	4.47	4.47	4.35	4.59
Endrin ketone	5.48	5.48	5.48	5.48	5.48	5.48	5.36	5.60
Methoxychlor	4.97	4.96	4.96	4.96	4.96	4.96	4.84	5.08
alpha-Chlordane	3.59	3.59	3.59	3.59	3.59	3.59	3.51	3.67
gamma-Chlordane	3.48	3.48	3.47	3.47	3.47	3.47	3.39	3.55
Chlordane 500 ppb			2.60				2.52	2.68
Chlordane {2}			2.98				2.90	3.06
Chlordane {3}			3.47				3.39	3.55
Chlordane {4}			3.58				3.50	3.66
Chlordane {5}			4.29				4.21	4.37
Toxaphene 500 ppb			4.46				4.38	4.54
Toxaphene {2}			4.74				4.66	4.82
Toxaphene {3}			5.09				5.01	5.17
Toxaphene {4}			5.46				5.38	5.54
Toxaphene {5}			5.62				5.54	5.70

PESTICIDE INITIAL CALIBRATION SUMMARY

Date Analyzed: 05/26/2015 **Instrument ID:** GC-O
GC Column (1st): RTX-CLP1

Data File: O9451.D O9450.D O9449.D O9448.D O9447.D

Compound	CALIBRATION FACTORS 2	50	100	200	300	MEAN	%RSD
alpha-BHC	160881	167421	172021	201118	184782	177245	9.00
beta-BHC	76513	63951	61708	71960	65553	67937	9.02
gamma-BHC	144189	146166	150482	175518	160591	155389	8.31
delta-BHC	135603	141170	144356	174820	159111	151012	10.53
Heptachlor	146035	141658	142667	164735	149968	149012	6.29
Aldrin	145940	142725	144751	166727	152525	150534	6.49
Heptachlor epoxide	137469	126330	126229	144665	131374	133213	5.92
Endosulfan I	133611	125029	123885	141932	128085	130508	5.68
4,4'-DDE	103004	105590	107091	131832	120335	113570	10.75
Dieldrin	131208	126438	125712	147680	133913	132990	6.68
Endrin	100889	100872	98074	121044	109080	105992	8.84
Endosulfan II	118604	106479	103098	123957	110668	112561	7.65
4,4'-DDD	94879	87983	86440	106863	96327	94498	8.59
Endrin aldehyde	101509	84424	82732	98938	88112	91143	9.40
Endosulfan sulfate	107787	92411	89137	109186	96612	99026	9.14
4,4'-DDT	74782	80674	80676	107200	96398	87946	15.27
Endrin ketone	140232	115672	108776	131952	115456	122418	10.72
Methoxychlor	35531	38851	37046	48501	42776	40541	12.85
alpha-Chlordane	134170	124456	124478	145406	132607	132224	6.53
gamma-Chlordane	133711	128371	128985	151325	138168	136112	6.89
Chlordane 500 ppb			4289				
Chlordane {2}			5211				
Chlordane {3}			15376				
Chlordane {4}			24261				
Chlordane {5}			3950				
Toxaphene 500 ppb			1856				
Toxaphene {2}			3663				
Toxaphene {3}			3972				
Toxaphene {4}			3793				
Toxaphene {5}			2053				

PESTICIDE INITIAL CALIBRATION SUMMARY

Date Analyzed: 05/26/2015

Instrument ID: GC-O

GC Column (2nd): RTX-CLP2

Data File: O9451.C O9450.C O9449.C O9448.C O9447.C

Compound	RT OF STANDARDS					MEAN	RT WINDOW	
	2	50	100	200	300	RT	FROM	TO
alpha-BHC	2.50	2.50	2.51	2.51	2.51	2.50	2.44	2.56
beta-BHC	2.85	2.85	2.85	2.85	2.85	2.85	2.79	2.91
gamma-BHC	2.79	2.79	2.79	2.79	2.79	2.79	2.73	2.85
delta-BHC	3.11	3.11	3.11	3.11	3.11	3.11	3.05	3.17
Heptachlor	3.17	3.17	3.17	3.17	3.17	3.17	3.09	3.25
Aldrin	3.47	3.47	3.47	3.47	3.47	3.47	3.39	3.55
Heptachlor epoxide	4.01	4.01	4.01	4.01	4.01	4.01	3.93	4.09
Endosulfan I	4.40	4.40	4.40	4.40	4.40	4.40	4.32	4.48
4,4'-DDE	4.49	4.49	4.49	4.50	4.49	4.49	4.39	4.59
Dieldrin	4.68	4.68	4.68	4.68	4.68	4.68	4.58	4.78
Endrin	5.00	5.00	5.00	5.00	5.00	5.00	4.90	5.10
Endosulfan II	5.22	5.22	5.22	5.22	5.22	5.22	5.12	5.32
4,4'-DDD	5.10	5.10	5.10	5.10	5.10	5.10	5.00	5.20
Endrin aldehyde	5.58	5.58	5.58	5.58	5.58	5.58	5.46	5.70
Endosulfan sulfate	5.87	5.87	5.87	5.87	5.87	5.87	5.75	5.99
4,4'-DDT	5.43	5.43	5.43	5.43	5.43	5.43	5.31	5.55
Endrin ketone	6.47	6.47	6.47	6.48	6.47	6.47	6.35	6.59
Methoxychlor	6.19	6.19	6.19	6.19	6.19	6.19	6.07	6.31
alpha-Chlordane	4.33	4.33	4.34	4.34	4.34	4.34	4.26	4.42
gamma-Chlordane	4.19	4.19	4.19	4.19	4.19	4.19	4.11	4.27
Chlordane 500 ppb			3.04				2.96	3.12
Chlordane {2}			3.60				3.52	3.68
Chlordane {3}			4.19				4.11	4.27
Chlordane {4}			4.28				4.20	4.36
Chlordane {5}			4.33				4.25	4.41
Toxaphene 500 ppb			5.30				5.22	5.38
Toxaphene {2}			5.58				5.50	5.66
Toxaphene {3}			5.86				5.78	5.94
Toxaphene {4}			6.14				6.06	6.22
Toxaphene {5}			6.59				6.51	6.67

PESTICIDE INITIAL CALIBRATION SUMMARY

Date Analyzed: 05/26/2015 **Instrument ID:** GC-O
GC Column (2nd): RTX-CLP2

Data File: O9451.C O9450.C O9449.C O9448.C O9447.C

Compound	CALIBRATION FACTORS 2	50	100	200	300	MEAN	%RSD
alpha-BHC	193109	226431	240045	285499	264825	241982	14.68
beta-BHC	99675	86462	85189	100504	92295	92825	7.71
gamma-BHC	180424	205173	214172	256454	238808	219006	13.50
delta-BHC	167653	186034	193597	241338	223254	202375	14.62
Heptachlor	176770	187674	195193	234177	217019	202167	11.46
Aldrin	180341	190186	197796	234936	218448	204341	10.82
Heptachlor epoxide	168660	167269	171299	203041	187670	179588	8.61
Endosulfan I	149787	150632	153700	184216	170351	161737	9.33
4,4'-DDE	145020	150079	152862	189818	177692	163094	11.98
Dieldrin	154363	163740	168585	204837	189876	176280	11.68
Endrin	107660	120771	120388	157284	145053	130231	15.58
Endosulfan II	150447	143956	141991	174349	157731	153695	8.52
4,4'-DDD	110106	108833	109548	139373	128879	119348	11.73
Endrin aldehyde	127371	111168	109975	133962	121133	120722	8.55
Endosulfan sulfate	126847	116324	114360	144049	129932	126302	9.46
4,4'-DDT	86426	91317	94430	132816	122356	105469	19.65
Endrin ketone	186184	158165	151577	183175	162319	168284	9.20
Methoxychlor	47369	48569	45959	60793	54584	51455	11.99
alpha-Chlordane	160800	163282	166399	199314	184858	174931	9.49
gamma-Chlordane	165686	167198	172241	207248	192568	180988	10.05
Chlordane 500 ppb			6018				
Chlordane {2}			6169				
Chlordane {3}			19257				
Chlordane {4}			14823				
Chlordane {5}			15874				
Toxaphene 500 ppb			4264				
Toxaphene {2}			3666				
Toxaphene {3}			2370				
Toxaphene {4}			4939				
Toxaphene {5}			3353				

PESTICIDE CALIBRATION VERIFICATION SUMMARY

Date Analyzed: 05/29/2015 **Instrument ID:** GC-O

Data File: O9510.D **GC Column (1st):** RTX-CLP1

Compound	RT	RT WINDOW FROM	TO	Avg CF	CC CF	%D
alpha-BHC	2.12	2.06	2.18	177245	175713	0.86
beta-BHC	2.37	2.31	2.43	67937	59966	11.73
gamma-BHC	2.32	2.26	2.38	155389	160512	3.30
delta-BHC	2.50	2.44	2.56	151012	153573	1.70
Heptachlor	2.65	2.57	2.73	149012	139053	6.68
Aldrin	2.88	2.80	2.96	150534	148903	1.08
Heptachlor epoxide	3.37	3.29	3.45	133213	131446	1.33
Endosulfan I	3.71	3.63	3.79	130508	128385	1.63
4,4'-DDE	3.65	3.56	3.76	113570	118290	4.16
Dieldrin	3.93	3.83	4.03	132990	116828	12.15
Endrin	4.14	4.04	4.24	105992	101396	4.34
Endosulfan II	4.35	4.25	4.45	112561	113194	0.56
4,4'-DDD	4.21	4.11	4.31	94498	97510	3.19
Endrin aldehyde	4.76	4.64	4.88	91143	92614	1.61
Endosulfan sulfate	5.19	5.08	5.32	99026	99607	0.59
4,4'-DDT	4.47	4.35	4.59	87946	88840	1.02
Endrin ketone	5.48	5.36	5.60	122418	126119	3.02
Methoxychlor	4.96	4.84	5.08	40541	40020	1.29
alpha-Chlordane	3.59	3.51	3.67	132224	130541	1.27
gamma-Chlordane	3.47	3.39	3.55	136112	134802	0.96
Chlordane 500 ppb	2.59	2.52	2.68	4289	4255	0.78
Chlordane {2}	2.98	2.90	3.06	5211	5194	0.33
Chlordane {3}	3.47	3.39	3.55	15376	15088	1.87
Chlordane {4}	3.58	3.50	3.66	24261	23785	1.96
Chlordane {5}	4.29	4.21	4.37	3950	3925	0.62
Toxaphene 500 ppb	4.46	4.38	4.54	1856	2211	19.11
Toxaphene {2}	4.74	4.66	4.82	3663	3942	7.63
Toxaphene {3}	5.09	5.01	5.17	3972	4217	6.17
Toxaphene {4}	5.46	5.38	5.54	3793	3954	4.23
Toxaphene {5}	5.62	5.54	5.70	2053	1886	8.13

PESTICIDE CALIBRATION VERIFICATION SUMMARY

Date Analyzed: 05/29/2015 **Instrument ID:** GC-O

Data File: O9510.C **GC Column (2nd):** RTX-CLP2

Compound	RT	RT WINDOW FROM	RT WINDOW TO	Avg CF	CC CF	%D
alpha-BHC	2.50	2.44	2.56	241982	240743	0.51
beta-BHC	2.85	2.79	2.91	92825	84021	9.48
gamma-BHC	2.79	2.73	2.85	219006	229005	4.57
delta-BHC	3.11	3.05	3.17	202375	207655	2.61
Heptachlor	3.17	3.09	3.25	202167	190199	5.92
Aldrin	3.47	3.39	3.55	204341	205170	0.41
Heptachlor epoxide	4.01	3.93	4.09	179588	178830	0.42
Endosulfan I	4.40	4.32	4.48	161737	164214	1.53
4,4'-DDE	4.49	4.39	4.59	163094	172755	5.92
Dieldrin	4.68	4.58	4.78	176280	160093	9.18
Endrin	4.99	4.90	5.10	130231	125007	4.01
Endosulfan II	5.22	5.12	5.32	153695	157985	2.79
4,4'-DDD	5.10	5.00	5.20	119348	124603	4.40
Endrin aldehyde	5.58	5.46	5.70	120722	122900	1.80
Endosulfan sulfate	5.87	5.75	5.99	126302	129492	2.53
4,4'-DDT	5.43	5.31	5.55	105469	101072	4.17
Endrin ketone	6.47	6.35	6.59	168284	172170	2.31
Methoxychlor	6.19	6.07	6.31	51455	47711	7.28
alpha-Chlordane	4.33	4.26	4.42	174931	176402	0.84
gamma-Chlordane	4.19	4.11	4.27	180988	181705	0.40
Chlordane 500 ppb	3.04	2.96	3.12	6018	6014	0.06
Chlordane {2}	3.60	3.52	3.68	6169	6200	0.50
Chlordane {3}	4.19	4.11	4.27	19257	19251	0.03
Chlordane {4}	4.28	4.20	4.36	14823	14795	0.19
Chlordane {5}	4.33	4.25	4.41	15874	15943	0.43
Toxaphene 500 ppb	5.31	5.22	5.38	4264	4767	11.80
Toxaphene {2}	5.58	5.50	5.66	3666	3931	7.21
Toxaphene {3}	5.87	5.78	5.94	2370	2528	6.66
Toxaphene {4}	6.15	6.06	6.22	4939	5405	9.43
Toxaphene {5}	6.59	6.51	6.67	3353	3601	7.40

PESTICIDE CALIBRATION VERIFICATION SUMMARY

Date Analyzed: 05/29/2015 **Instrument ID:** GC-Q

Data File: Q9530.D **GC Column (1st):** RTX-CLP1

Compound	RT	RT WINDOW FROM	RT WINDOW TO	Avg CF	CC CF	%D
alpha-BHC	2.12	2.06	2.18	177245	175111	1.20
beta-BHC	2.37	2.31	2.43	67937	61185	9.94
gamma-BHC	2.32	2.26	2.38	155389	156962	1.01
delta-BHC	2.50	2.44	2.56	151012	155058	2.68
Heptachlor	2.65	2.57	2.73	149012	128040	14.07
Aldrin	2.88	2.80	2.96	150534	146511	2.67
Heptachlor epoxide	3.36	3.29	3.45	133213	129280	2.95
Endosulfan I	3.71	3.63	3.79	130508	125007	4.22
4,4'-DDE	3.65	3.56	3.76	113570	113946	0.33
Dieldrin	3.92	3.83	4.03	132990	112952	15.07
Endrin	4.14	4.04	4.24	105992	106936	0.89
Endosulfan II	4.35	4.25	4.45	112561	108200	3.87
4,4'-DDD	4.20	4.11	4.31	94498	95064	0.60
Endrin aldehyde	4.76	4.64	4.88	91143	87696	3.78
Endosulfan sulfate	5.19	5.08	5.32	99026	95926	3.13
4,4'-DDT	4.47	4.35	4.59	87946	79170	9.98
Endrin ketone	5.48	5.36	5.60	122418	113632	7.18
Methoxychlor	4.96	4.84	5.08	40541	37913	6.48
alpha-Chlordane	3.59	3.51	3.67	132224	126570	4.28
gamma-Chlordane	3.47	3.39	3.55	136112	130904	3.83

PESTICIDE CALIBRATION VERIFICATION SUMMARY

Date Analyzed: 05/29/2015 **Instrument ID:** GC-O

Data File: O9530.C **GC Column (2nd):** RTX-CLP2

Compound	RT	RT WINDOW FROM	RT WINDOW TO	Avg CF	CC CF	%D
alpha-BHC	2.51	2.44	2.56	241982	242440	0.19
beta-BHC	2.85	2.79	2.91	92825	84991	8.44
gamma-BHC	2.79	2.73	2.85	219006	226965	3.63
delta-BHC	3.11	3.05	3.17	202375	210347	3.94
Heptachlor	3.18	3.09	3.25	202167	177854	12.03
Aldrin	3.47	3.39	3.55	204341	203494	0.41
Heptachlor epoxide	4.01	3.93	4.09	179588	176902	1.50
Endosulfan I	4.40	4.32	4.48	161737	160708	0.64
4,4'-DDE	4.50	4.39	4.59	163094	162421	0.41
Dieldrin	4.68	4.58	4.78	176280	153524	12.91
Endrin	5.00	4.90	5.10	130231	134903	3.59
Endosulfan II	5.22	5.12	5.32	153695	157038	2.18
4,4'-DDD	5.10	5.00	5.20	119348	119525	0.15
Endrin aldehyde	5.58	5.46	5.70	120722	120936	0.18
Endosulfan sulfate	5.88	5.75	5.99	126302	125956	0.27
4,4'-DDT	5.44	5.31	5.55	105469	88320	16.26
Endrin ketone	6.48	6.35	6.59	168284	163022	3.13
Methoxychlor	6.19	6.07	6.31	51455	46405	9.81
alpha-Chlordane	4.34	4.26	4.42	174931	171747	1.82
gamma-Chlordane	4.19	4.11	4.27	180988	178213	1.53

PESTICIDE RETENTION TIME SHIFT SUMMARY

Instrument ID: GC-O **Column:** RTX-CLP1/CLP2

Surrogate RT from initial calibration :

TCMX 1 1.80 **DCB 1** 6.57 **TCMX 2** 2.07 **DCB 2** 8.13

Client ID	Lab Sample ID	Date Analyzed	Time Analyzed	TCMX 1 RT	#	DCB 1 RT	#	TCMX 2 RT	#	DCB 2 RT	#
Pest	BLKS150527-04	05/29/2015	10:08	1.80		6.57		2.07		8.13	
Pest	LCSS150527-04	05/29/2015	10:20	1.80		6.57		2.07		8.13	
Pest	04285-003MS	05/29/2015	10:41	1.80		6.57		2.07		8.13	
Pest	04285-003MSD	05/29/2015	10:54	1.80		6.57		2.07		8.12	
DP-1/7-7	E15-04285-003	05/29/2015	11:07	1.80		6.57		2.07		8.12	
SP-1/3.5	E15-04285-007	05/29/2015	11:19	1.80		6.57		2.07		8.12	
SP-2/3.5	E15-04285-008	05/29/2015	11:32	1.80		6.57		2.07		8.12	
SP-3/3-3	E15-04285-009	05/29/2015	11:45	1.80		6.57		2.07		8.12	
SP-4/4.5	E15-04285-010	05/29/2015	11:57	1.80		6.57		2.07		8.13	
SP-5/4.5	E15-04285-011	05/29/2015	12:10	1.80		6.57		2.07		8.12	
SS-1/1.5	E15-04271-001	05/29/2015	12:22	1.80		6.57		2.07		8.12	
SS-2/1.5	E15-04271-002	05/29/2015	12:35	1.80		6.57		2.07		8.12	
SS-3/1.5	E15-04271-003	05/29/2015	12:48	1.80		6.57		2.07		8.12	
SS-4/1.5	E15-04271-004	05/29/2015	13:01	1.80		6.57		2.07		8.12	
15-069	E15-04287-001	05/29/2015	13:13	1.80		6.57		2.07		8.12	
15-070	E15-04336-001	05/29/2015	13:26	1.80		6.57		2.07		8.12	
B-203A	E15-04337-003	05/29/2015	13:39	1.80		6.57		2.07		8.12	

Surrogate QC Limits

TCMX = Tetrachloro-m-xylene (± 0.10 Minutes)

DCB = Decachlorobiphenyl (± 0.10 Minutes)

\# Column to be used to flag recovery values
* Values outside of QC limits
D Surrogate diluted out
M Matrix interference

Date Analyzed: 05/29/2015

Data file: O9508.D Fri May 29 09:03:51 2015

1st Column

DDT (1)	8825136	Endrin (1)	10105904
DDD	355285	Endrin ketone	547608
DDE	136405	Endrin aldehyde	350769

2nd Column

DDT (2)	10274501	Endrin (2)	12560457
DDD	542045	Endrin ketone	1032235
DDE	183739	Endrin aldehyde	668468

% Breakdown

DDT (1)	Endrin (1)
5.28	8.16

DDT (2)	Endrin (2)
6.60	11.93

PESTICIDE SAMPLE DATA

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\05-29-15\
Data File : 09528.D
Signal(s) : Signal #1: ECD1B.CH Signal #2: ECD2A.CH
Acq On : 29 May 2015 13:26
Operator : IB
Sample : 15-070,E15-04336-001,Xs,30.44g,0,5
Misc : 150527-04,05/27/15,05/27/15,1
ALS Vial : 20 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: May 29 14:30:22 2015
Quant Method : C:\MSDCHEM\1\METHODS\OPST0526.M
Quant Title :
QLast Update : Fri May 29 09:41:26 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	ng#1	ng#2
System Monitoring Compounds						
1) S TCMX	1.80	2.07	20914204	32132223	220.740	228.361
Spiked Amount 200.000	Range 10 - 180		Recovery =		110.37%	114.18%
2) S DCB	6.57	8.12	11864680	15174789	262.466	259.599
Spiked Amount 200.000	Range 10 - 180		Recovery =		131.23%	129.80%
Target Compounds						
Sum Chlordane			0	0	N.D.	N.D.
Average Chlordane					0.000	0.000
Sum Toxaphene			0	0	N.D.	N.D.
Average Toxaphene					0.000	0.000

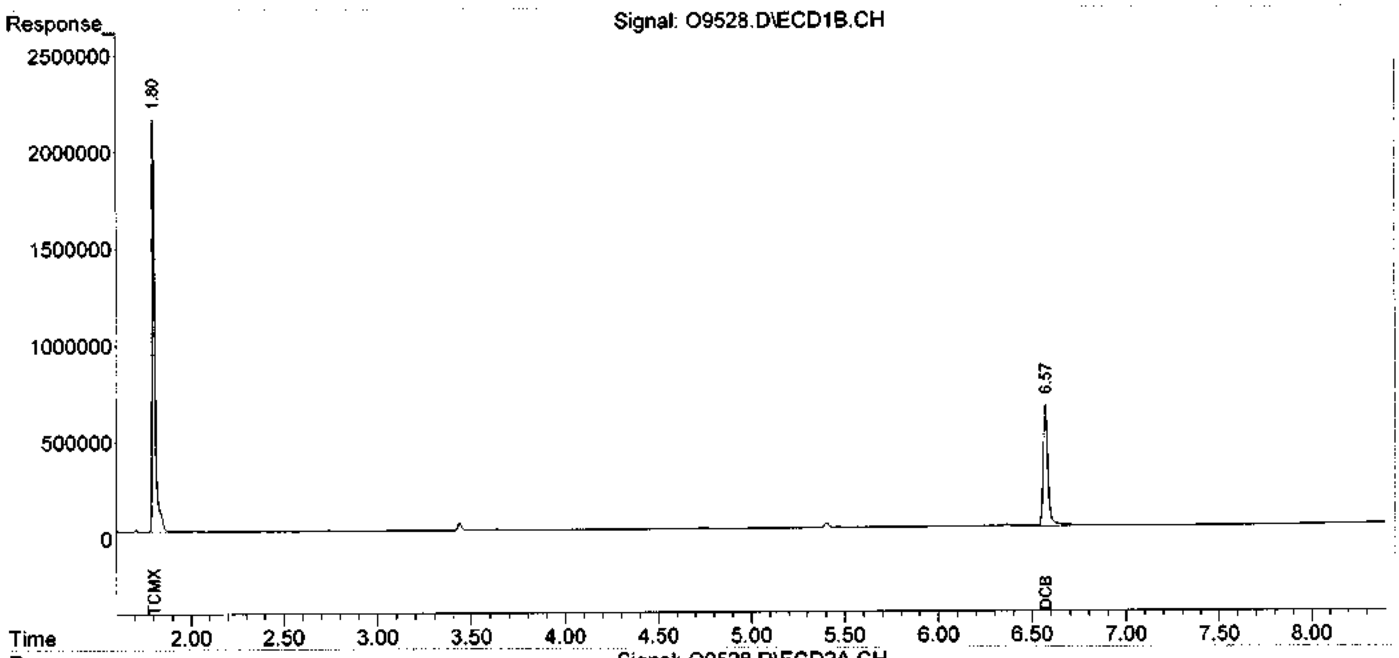
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

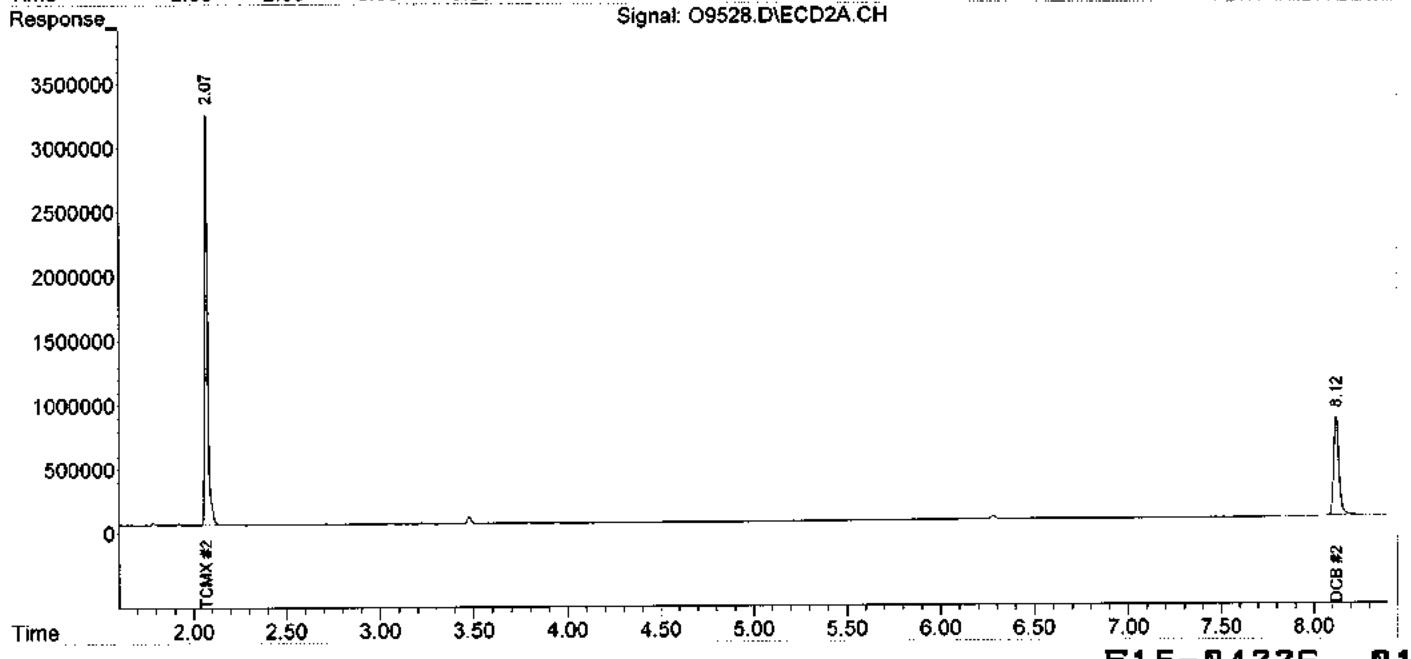
Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\05-29-15\
Data File : O9528.D
Signal(s) : Signal #1: ECD1B.CH Signal #2: ECD2A.CH
Acq On : 29 May 2015 13:26
Operator : IB
Sample : 15-070,E15-04336-001,Xs,30.44g,0,5
Misc : 150527-04,05/27/15,05/27/15,1
ALS Vial : 20 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: May 29 14:30:22 2015
Quant Method : C:\MSDCHEM\1\METHODS\OPST0526.M
Quant Title :
QLast Update : Fri May 29 09:41:26 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





INTEGRATED ANALYTICAL LABORATORIES

PESTICIDES

Lab ID: BLKS150527-04
Client ID: Pest
Date Received: NA
Date Extracted: 05/27/2015
Date Analyzed: 05/29/2015
Data file: O9513.D

GC Column: RTX-CLP1/CLP2
Sample wt/vol: 30g
Matrix-Units: Soil-mg/Kg
Dilution Factor: 1
% Moisture: NA

Compound	Concentration	Q	RL	MDL
alpha-BHC	ND		0.000334	0.000167
beta-BHC	ND		0.000334	0.000167
gamma-BHC (Lindane)	ND		0.000334	0.000167
delta-BHC	ND		0.000334	0.000167
Heptachlor	ND		0.000334	0.000167
Aldrin	ND		0.000334	0.000167
Heptachlor epoxide	ND		0.000334	0.000167
Endosulfan I	ND		0.000334	0.000167
4,4'-DDE	ND		0.000334	0.000167
Dieldrin	ND		0.000334	0.000167
Endrin	ND		0.000334	0.000167
Endosulfan II	ND		0.000334	0.000167
4,4'-DDD	ND		0.000334	0.000167
Endrin aldehyde	ND		0.000334	0.000167
Endosulfan sulfate	ND		0.000334	0.000167
4,4'-DDT	ND		0.000334	0.000167
Endrin ketone	ND		0.000334	0.000167
Methoxychlor	ND		0.000334	0.000167
alpha-Chlordane	ND		0.000334	0.000167
gamma-Chlordane	ND		0.000334	0.000167
Toxaphene	ND		0.00418	0.002
Endosulfan (I and II)	ND		0.000334	0.000167
Chlordane (alpha and gamma)	ND		0.000334	0.000167

D --- Dilution Performed
J --- Value Less than RL & greater than MDL
E --- Exceeds upper level of Calibration curve

B --- Compound detected in Blank
C --- Common laboratory contamination

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\05-29-15\
Data File : 09513.D
Signal(s) : Signal #1: ECD1B.CH Signal #2: ECD2A.CH
Acq On : 29 May 2015 10:08
Operator : IB
Sample : Pest,BLKS150527-04,S,30g,0,5
Misc : NA,05/27/15,NA,1
ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: May 29 11:21:49 2015
Quant Method : C:\MSDCHEM\1\METHODS\OPST0526.M
Quant Title :
QLast Update : Fri May 29 09:41:26 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

Compound	RT#1	RT#2	Resp#1	Resp#2	ng#1	ng#2
System Monitoring Compounds						
1) S TCMX	1.80	2.07	23333366	35454015	246.273	251.969
Spiked Amount 200.000	Range 10 - 180		Recovery =		123.14%	125.98%
2) S DCB	6.57	8.13	10521207	13289683	232.746	227.350
Spiked Amount 200.000	Range 10 - 180		Recovery =		116.37%	113.68%
Target Compounds						
Sum Chlordane			0	0	N.D.	N.D.
Average Chlordane					0.000	0.000
Sum Toxaphene			0	0	N.D.	N.D.
Average Toxaphene					0.000	0.000

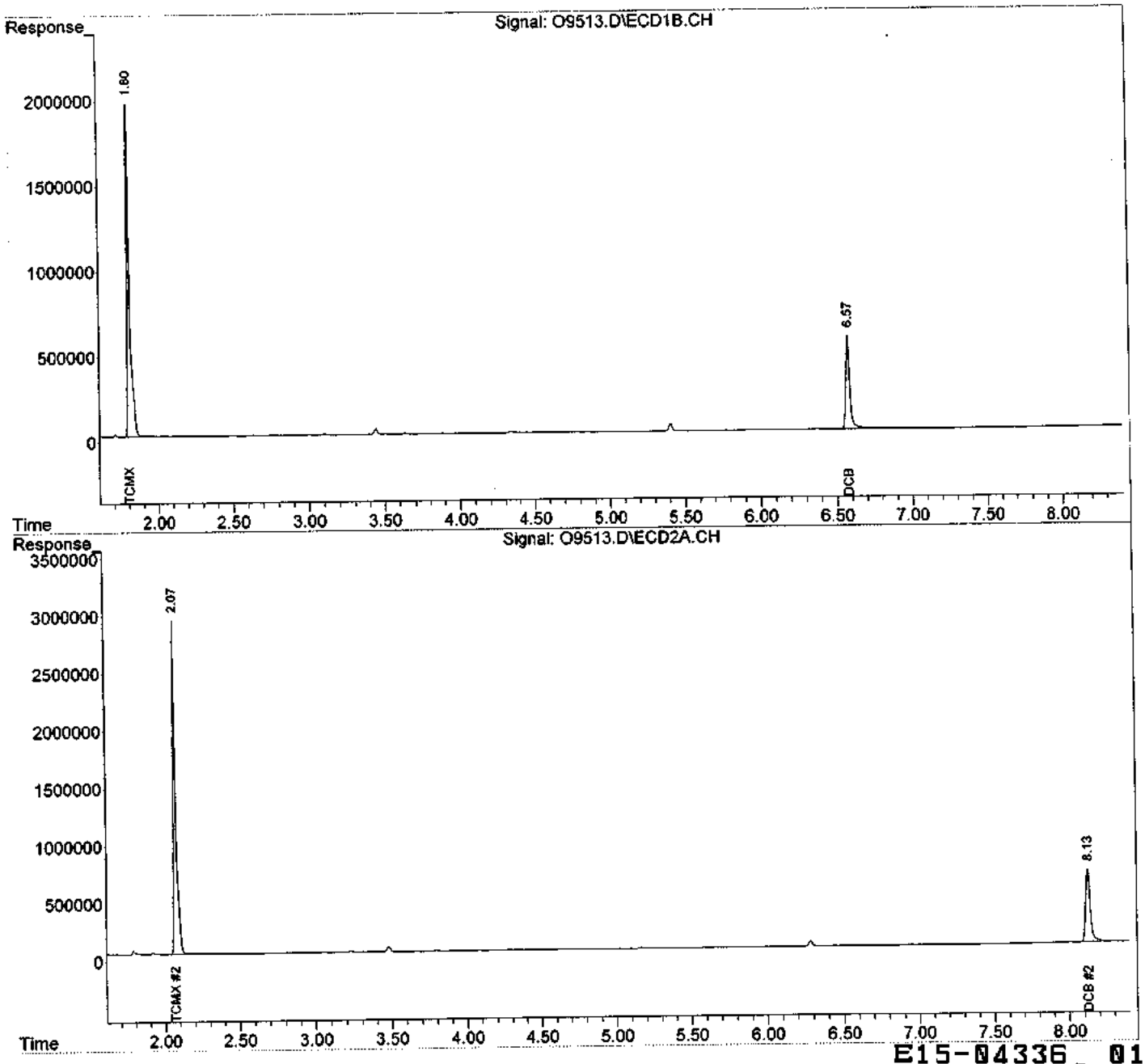
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\05-29-15\
Data File : O9513.D
Signal(s) : Signal #1: ECD1B.CH Signal #2: ECD2A.CH
Acq On : 29 May 2015 10:08
Operator : IB
Sample : Pest,BLKS150527-04,S,30g,0,5
Misc : NA,05/27/15,NA,1
ALS Vial : 5 Sample Multiplier: 1

Integration File signal 1: EVENTS.E
Integration File signal 2: EVENTS2.E
Quant Time: May 29 11:21:49 2015
Quant Method : C:\MSDCHEM\1\METHODS\OPST0526.M
Quant Title :
QLast Update : Fri May 29 09:41:26 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Small noise peaks clipped

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



EXTRACTABLE PETROLEUM HYDROCARBON

EXTRACTABLE PETROLEUM HYDROCARBON
QC SUMMARY

NJ-EPH-C40 SURROGATE PERCENT RECOVERY SUMMARY

Date Analyzed: 05/29/2015

Client ID	Lab Sample ID	Matrix	COD % rec	#	OTP % rec	#
NJ-EPH-C	BLKS150527-02	SOIL	51		54	
NJ-EPH-C	LCSS150527-02	SOIL	68		68	
NJ-EPH-C	LCSDS150527-02	SOIL	66		67	
PXA-1	E15-04317-001	SOIL	48		49	
PXA-2	E15-04317-002	SOIL	61		64	
PXA-3	E15-04317-003	SOIL	62		65	
PXA-4	E15-04317-004	SOIL	57		60	
PXA-5	E15-04317-005	SOIL	49		52	
PXA-6	E15-04317-006	SOIL	63		64	
PXA-BASE	E15-04317-007	SOIL	54		56	
PXB-1	E15-04317-009	SOIL	59		62	
PXB-2	E15-04317-010	SOIL	41		41	
PXB-3	E15-04317-011	SOIL	52		55	
PXB-4	E15-04317-012	SOIL	68		70	
PXB-5	E15-04317-013	SOIL	45		46	
PXB-6	E15-04317-014	SOIL	56		58	
PXB-BASE	E15-04317-015	SOIL	57		59	
PXB-BASE	E15-04317-016	SOIL	59		63	
BG-1	E15-04319-001	SOIL	41		40	
PXA-1	E15-04317-001DU	SOIL	52		53	
PXA-BASE	E15-04317-008	SOIL	40		40	
15-070	E15-04336-001	SOLID	75		76	
NJ-EPH-C	E15-04317-001MS	SOIL	67		67	

Surrogate QC Limits	Soil	Aqueous/Leachate
COD = 1-Chlorooctadecane	40-140	40-140
OTP = o-Terphenyl	40-140	40-140

\# Column used to flag recovery values that did not meet criteria
* Values outside of QC limits
D Surrogate diluted out
M Matrix interference

INTEGRATED ANALYTICAL LABORATORIES

NJ-EPH ALIPHATIC LCS/LCSD ACCURACY REPORT

Lab ID: LCSDS150527-02
Date Received: NA
Date Extracted: 05/27/2015
Date Analyzed: 05/29/2015
LCS Data file: I9518.D
LCSD Data file: I9519.D

GC Column: RTX-5
Sample wt/vol: 10.0g
Matrix-Units: Soil-mg/Kg
% Moisture: NA
Dilution Factor: 1
Dilution Factor: 1

Compound	Conc. Add	Sample	Conc. LCS	%Rec. LCS	#	Conc. LCSD	%Rec. LCSD	#	%RPD	#
n-Nonane (C9)	100	0.0	43.5	44		41.5	42		5	
n-Decane (C10)	100	0.0	48.4	48		46.6	47		4	
n-Dodecane (C12)	100	0.0	55.8	56		54.0	54		3	
n-Tetradecane (C14)	100	0.0	60.5	61		58.5	59		3	
n-Hexadecane (C16)	100	0.0	62.7	63		60.8	61		3	
n-Octadecane (C18)	100	0.0	63.1	63		61.8	62		2	
n-Eicosane (C20)	100	0.0	65.9	66		64.2	64		3	
n-Heneicosane (C21)	200	0.0	146.7	73		143.7	72		2	
n-Docosane (C22)	100	0.0	65.7	66		64.5	65		2	
n-Tetracosane (C24)	100	0.0	68.1	68		67.3	67		1	
n-Hexacosane (C26)	100	0.0	70.8	71		70.3	70		1	
n-Octacosane (C28)	300	0.0	240.0	80		239.3	80		0	
n-Triacontane (C30)	100	0.0	74.8	75		74.6	75		0	
n-Dotriacontane (C32)	100	0.0	78.7	79		78.5	79		0	
n-Tetratriacontane (C34)	100	0.0	78.4	78		78.0	78		1	
n-Hexatriacontane (C36)	100	0.0	81.7	82		81.2	81		1	
n-Octatriacontane (C38)	100	0.0	84.7	85		84.1	84		1	
n-Tetracontane (C40)	100	0.0	88.2	88		88.1	88		0	
C9-C40	3600	0.0	2555.8	71		2514.0	70		2	

	Aqueous	Soil/Sediment
n-Nonane (C9) ACCURACY (%REC)	25-140	25-140
LCS/LCSSD ACCURACY (%REC)	40-140	40-140
LCS/LCSD PRECISION (RPD)	25	25

C9-C40 includes Aliphatic and Aromatic compounds

Column used to flag recovery and RPD values that did not meet criteria

* Values outside of QC limits

INTEGRATED ANALYTICAL LABORATORIES

NJ-EPH ALIPHATIC MS ACCURACY REPORT

Lab ID: E15-04317-001MS
Client ID: NJ-EPH-C
Date Received: NA
Date Extracted: 05/27/2015
Date Analyzed: 06/01/2015
MS Data file: I9545.D

GC Column: RTX-5
Sample wt/vol: 10g
Matrix-Units: Soil-mg/Kg
% Moisture: 6.70
Dilution Factor: 1

Compound	Conc. Add	Sample	MS Conc.	%Rec.	#
n-Nonane (C9)	100	0	41	41	
n-Decane (C10)	100	0	46	46	
n-Dodecane (C12)	100	0	54	54	
n-Tetradecane (C14)	100	0	58	58	
n-Hexadecane (C16)	100	0	60	60	
n-Octadecane (C18)	100	0	61	61	
n-Eicosane (C20)	100	0	63	63	
n-Heneicosane (C21)	200	0	144	72	
n-Docosane (C22)	100	0	64	64	
n-Tetracosane (C24)	100	0	67	67	
n-Hexacosane (C26)	100	0	68	68	
n-Octacosane (C28)	300	0	210	70	
n-Triacontane (C30)	100	0	69	69	
n-Dotriacontane (C32)	100	0	67	67	
n-Tetratriacontane (C34)	100	0	71	71	
n-Hexatriacontane (C36)	100	0	79	79	
n-Octatriacontane (C38)	100	0	66	66	
n-Tetracontane (C40)	100	0	71	71	
C9-C40	3600	1419	3786	68	

	Aqueous	Soil/Sediment
n-Nonane (C9) Recovery Limits	25-140	25-140
MS Recovery Limits	40-140	40-140

C9-C40 includes Aliphatic and Aromatic compounds

Column used to flag recovery values that did not meet criteria

* Values outside of QC limits

NC Not calculable

INTEGRATED ANALYTICAL LABORATORIES

NJ-EPH DUPLICATE SAMPLE RESULTS SUMMARY

Client ID: PXA-1
Date Received: 05/26/2015
Date Extracted: 05/27/2015
Lab ID: E15-04317-001
Sample wt/vol: 10.70g
Date Analyzed: 05/29/2015
Aliphatics Sample Data file: I9520.D
Dilution Factor: 1

GC Column: RTX-5
Matrix-Units: Soil-mg/Kg
% Moisture: 6.70
Lab ID: E15-04317-001DUP
Sample wt/vol: 10g
Date Analyzed: 05/29/2015
Aliphatics Sample Dup Data file: I9538.D
Dilution Factor: 1

Compound	Sample Conc.	Sample Dup Conc.	% RPD	#
C9-C40	142	168	17	

	Aqueous	Soil/Sediment
Sample/Sample Dup PRECISION (% RPD)	50	50

NC Not calculable

NJ-EPH-C40 METHOD BLANK SUMMARY

Lab File ID: I9517.D

Instrument ID: GC-I

Date Extracted: 05/27/2015

Matrix: SOIL

Date Analyzed: 05/29/2015

Time Analyzed: 13:41

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, LCS or LCSD, MS or MSD:

Client ID	Lab Sample ID	Date Analyzed	Time Analyzed
NJ-EPH-C	LCSS150527-02	05/29/2015	14:04
NJ-EPH-C	LCSDS150527-02	05/29/2015	14:26
PXA-1	E15-04317-001	05/29/2015	14:48
PXA-2	E15-04317-002	05/29/2015	15:11
PXA-3	E15-04317-003	05/29/2015	15:33
PXA-4	E15-04317-004	05/29/2015	15:56
PXA-5	E15-04317-005	05/29/2015	16:18
PXA-6	E15-04317-006	05/29/2015	16:40
PXA-BASE	E15-04317-007	05/29/2015	17:03
PXB-1	E15-04317-009	05/29/2015	17:47
PXB-2	E15-04317-010	05/29/2015	18:10
PXB-3	E15-04317-011	05/29/2015	18:32
PXB-4	E15-04317-012	05/29/2015	18:54
PXB-5	E15-04317-013	05/29/2015	19:17
PXB-6	E15-04317-014	05/29/2015	19:39
PXB-BASE	E15-04317-015	05/29/2015	20:01
PXB-BASE	E15-04317-016	05/29/2015	20:23
BG-1	E15-04319-001	05/29/2015	20:46
PXA-1	E15-04317-001DUP	05/29/2015	22:15
PXA-BASE	E15-04317-008	06/01/2015	12:43
15-070	E15-04336-001	06/01/2015	13:27
NJ-EPH-C	E15-04317-001MS	06/01/2015	13:49

NJ-EPH-C40 RETENTION TIME SHIFT SUMMARY

Instrument ID: GC-I **Column:** RTX-5

Surrogate RT from initial calibration :

COD 8.40 **OTP** 6.76

Client ID	Lab Sample ID	Date Analyzed	Time Analyzed	COD RT	#	OTP RT	#
NJ-EPH-C	BLKS150527-02	05/29/2015	13:41	8.40		6.76	
NJ-EPH-C	LCSS150527-02	05/29/2015	14:04	8.40		6.76	
NJ-EPH-C	LCSDS150527-02	05/29/2015	14:26	8.40		6.76	
PXA-1	E15-04317-001	05/29/2015	14:48	8.40		6.76	
PXA-2	E15-04317-002	05/29/2015	15:11	8.40		6.76	
PXA-3	E15-04317-003	05/29/2015	15:33	8.40		6.76	
PXA-4	E15-04317-004	05/29/2015	15:56	8.40		6.76	
PXA-5	E15-04317-005	05/29/2015	16:18	8.40		6.76	
PXA-6	E15-04317-006	05/29/2015	16:40	8.40		6.76	
PXA-BASE	E15-04317-007	05/29/2015	17:03	8.40		6.76	
PXB-1	E15-04317-009	05/29/2015	17:47	8.40		6.76	
PXB-2	E15-04317-010	05/29/2015	18:10	8.40		6.76	
PXB-3	E15-04317-011	05/29/2015	18:32	8.40		6.76	
PXB-4	E15-04317-012	05/29/2015	18:54	8.40		6.76	
PXB-5	E15-04317-013	05/29/2015	19:17	8.40		6.76	
PXB-6	E15-04317-014	05/29/2015	19:39	8.40		6.76	
PXB-BASE	E15-04317-015	05/29/2015	20:01	8.40		6.76	
PXB-BASE	E15-04317-016	05/29/2015	20:23	8.40		6.77	
BG-1	E15-04319-001	05/29/2015	20:46	8.40		6.76	
PXA-1	E15-04317-001DUP	05/29/2015	22:15	8.40		6.76	
PXA-BASE	E15-04317-008	06/01/2015	12:43	8.40		6.76	
15-070	E15-04336-001	06/01/2015	13:27	8.40		6.77	
NJ-EPH-C	E15-04317-001MS	06/01/2015	13:49	8.41		6.76	

Surrogate QC Limits

COD = 1-Chlorooctadecane (± 0.10 Minutes)

OTP = o-Terphenyl (± 0.10 Minutes)

\# Column to be used to flag recovery values
* Values outside of QC limits
D Surrogate diluted out
M Matrix interference

EXTRACTABLE PETROLEUM HYDROCARBON
SAMPLE DATA

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\06-01-15\
Data File : I9544.D
Signal(s) : FID1A.CH
Acq On : 01 Jun 2015 13:27
Operator : JOLANTA
Sample : 15-070,E15-04336-001,Xs,10.0g,0,1
Misc : 150527-02,05/27/15,05/27/15,1
ALS Vial : 23 Sample Multiplier: 1

Integration File: AUTOINT1.E
Quant Time: Jun 01 14:31:54 2015
Quant Method : C:\MSDCHEM\1\METHODS\IEPH0528.M
Quant Title :
QLast Update : Fri May 29 12:05:27 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S 1-Chlorooctadecane	8.40	22537133	74.705 ng
Spiked Amount 100.000		Recovery =	74.70%
23) S o-Terphenyl	6.77	29205742	75.796 ng
Spiked Amount 100.000		Recovery =	75.80%
Target Compounds			
22) H C9-C40	7.00	179855350	452.342 ng

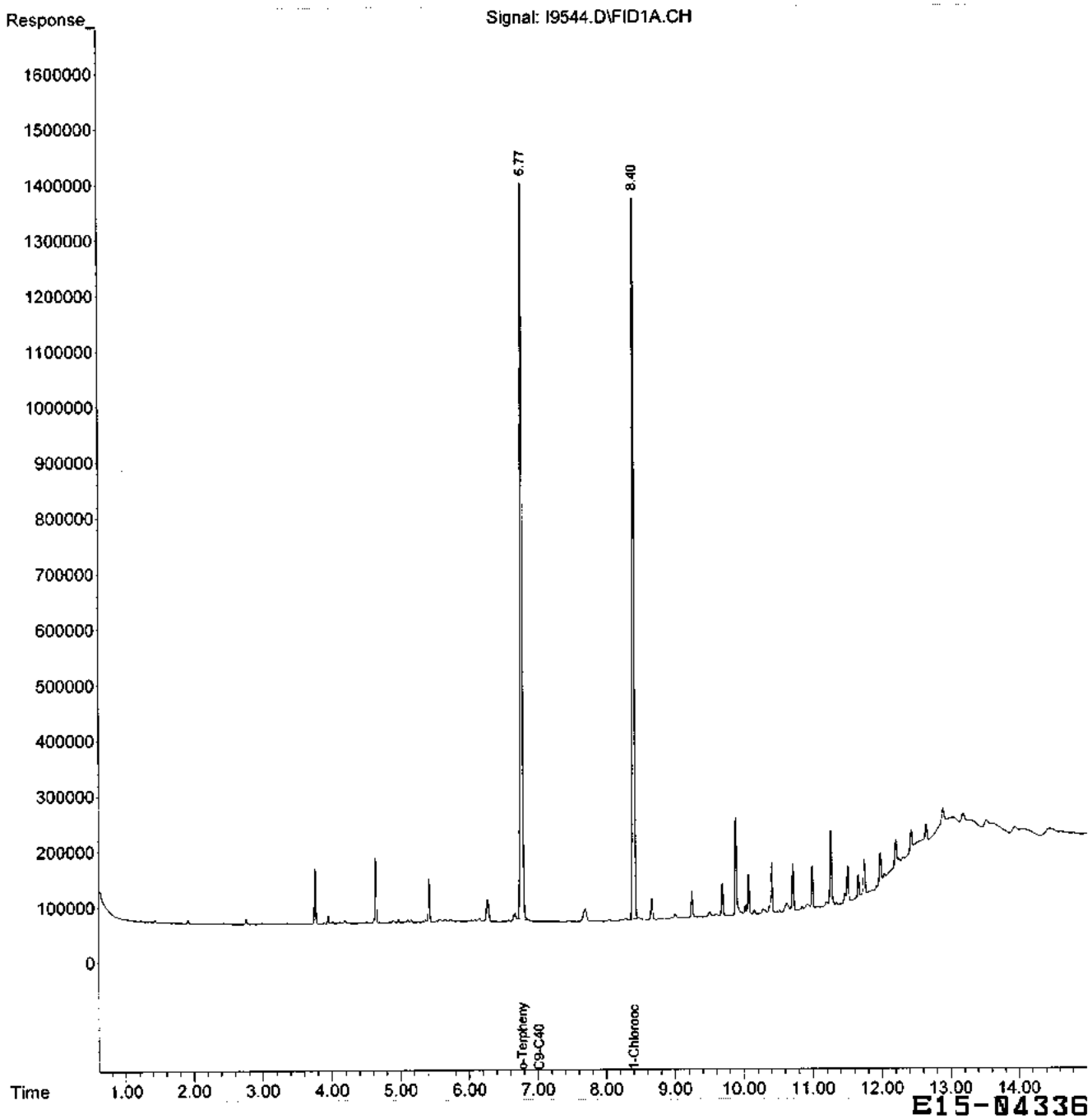
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\06-01-15\
Data File : I9544.D
Signal(s) : FID1A.CH
Acq On : 01 Jun 2015 13:27
Operator : JOLANTA
Sample : 15-070,E15-04336-001,Xs,10.0g,0,1
Misc : 150527-02,05/27/15,05/27/15,1
ALS Vial : 23 Sample Multiplier: 1

Integration File: AUTOINT1.E
Quant Time: Jun 01 14:31:54 2015
Quant Method : C:\MSDCHEM\1\METHODS\IEPH0528.M
Quant Title :
QLast Update : Fri May 29 12:05:27 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :



EXTRACTABLE PETROLEUM HYDROCARBON
STANDARDS

NJ-EPH-DRO INITIAL CALIBRATION SUMMARY

Date Analyzed: 05/28/2015

Instrument ID: GC-I

GC Column : RTX-5

Data File: I9512.D I9511.D I9510.D I9509.D I9508.D

Compound	RT OF STANDARDS					MEAN	RT WINDOW	
	20	100	250	500	1000	RT	FROM	TO
n-Nonane (C9)	1.02	1.02	1.02	1.02	1.03	1.02	0.93	1.11
n-Decane (C10)	1.70	1.70	1.70	1.71	1.72	1.70	1.61	1.79
n-Dodecane (C12)	3.03	3.03	3.03	3.04	3.05	3.04	2.95	3.13
n-Tetradecane (C14)	4.14	4.14	4.14	4.15	4.16	4.15	4.05	4.25
n-Hexadecane (C16)	5.11	5.11	5.11	5.12	5.13	5.12	5.02	5.22
n-Octadecane (C18)	6.07	6.08	6.08	6.10	6.12	6.09	5.99	6.19
n-Eicosane (C20)	7.82	7.82	7.83	7.85	7.88	7.84	7.73	7.95
n-Heneicosane (C21)	8.48	8.48	8.49	8.50	8.52	8.49	8.38	8.60
n-Docosane (C22)	8.94	8.94	8.94	8.95	8.97	8.95	8.84	9.06
n-Tetracosane (C24)	9.62	9.62	9.62	9.63	9.64	9.63	9.51	9.75
n-Hexacosane (C26)	10.15	10.16	10.16	10.17	10.18	10.16	10.04	10.28
n_Octacosane (C28)	10.62	10.62	10.62	10.63	10.64	10.63	10.51	10.75
n-Triacontane (C30)	11.04	11.04	11.05	11.05	11.06	11.05	10.92	11.18
n-Dotriacontane (C32)	11.43	11.43	11.43	11.44	11.45	11.44	11.31	11.57
n-Tetratriacontane (C34)	11.79	11.80	11.80	11.81	11.82	11.81	11.68	11.94
n-Hexatriacontane (C36)	12.15	12.16	12.16	12.16	12.17	12.16	12.01	12.31
n-Octatriacontane (C38)	12.49	12.50	12.50	12.51	12.52	12.50	12.35	12.65
n-Tetracontane (40)	12.89	12.90	12.90	12.91	12.93	12.91	12.76	13.06
C9-C28	5.80	5.80	5.80	5.80	5.80	5.80	5.65	5.95
C28-C40	12.00	12.00	12.00	12.00	12.00	12.00	11.85	12.15
C9-C40	7.00	7.00	7.00	7.00	7.00	7.00	6.85	7.15

NJ-EPH-DRO INITIAL CALIBRATION SUMMARY

Date Analyzed: 05/28/2015

Instrument ID: GC-I

GC Column : RTX-5

Data File: I9512.D I9511.D I9510.D I9509.D I9508.D

Compound	CALIBRATION FACTORS 20	100	250	500	1000	MEAN	%RSD
n-Nonane (C9)	454204	375404	328959	327211	344918	366139	14.45
n-Decane (C10)	454649	378216	332720	331128	349009	369144	13.93
n-Dodecane (C12)	446870	380132	335696	335254	353247	370240	12.58
n-Tetradecane (C14)	438735	379300	336125	337315	354599	369215	11.54
n-Hexadecane (C16)	434899	378989	336795	338801	355613	369019	10.98
n-Octadecane (C18)	436855	384884	342325	345365	362418	374369	10.37
n-Eicosane (C20)	448426	384316	340988	344206	359245	375436	11.78
n-Heneicosane (C21)	459927	389170	341687	341800	356045	377726	13.20
n-Docosane (C22)	454198	387787	344633	347369	360322	378862	12.00
n-Tetracosane (C24)	450028	385277	340719	344568	359606	376040	11.94
n-Hexacosane (C26)	450518	384492	339567	342790	359075	375288	12.17
n_Octacosane (C28)	454904	385423	340586	342947	359687	376710	12.54
n-Triacontane (C30)	456306	386335	340386	341958	359068	376811	12.77
n-Dotriacontane (C32)	454986	380271	336617	336599	350913	371877	13.38
n-Tetratriacontane (C34)	451220	373145	330911	326032	331818	362625	14.63
n-Hexatriacontane (C36)	448103	367387	326703	312391	314519	353821	16.16
n-Octatriacontane (C38)	426906	346584	308879	289753	299929	334410	16.74
n-Tetracontane (40)	401722	327022	291702	278666	297561	319335	15.45
C9-C28	492510	394640	344725	343930	359454	387052	16.13
C28-C40	548246	388487	333776	320877	329909	384259	24.84
C9-C40	552713	401537	344854	338220	350720	397609	22.70

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\05-28-15\
Data File : I9508.D
Signal(s) : FID1A.CH
Acq On : 28 May 2015 15:01
Operator : JOLANTA
Sample : ALI_L5_IAS_5294,1000_PPM
Misc : ,NA,NA,1
ALS Vial : 2 Sample Multiplier: 1

Integration File: AUTOINT1.E
Quant Time: May 29 12:03:41 2015
Quant Method : C:\MSDCHEM\1\METHODS\IEPH0528.M
Quant Title :
QLast Update : Fri May 29 12:03:14 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	System Monitoring Compounds			
1) S	1-Chlorooctadecane	8.44	294742800	977.005 ng
Spiked Amount	100.000		Recovery =	977.01%
23) S	o-Terphenyl	6.82	367016891	952.504 ng
Spiked Amount	100.000		Recovery =	952.50%
	Target Compounds			
2) T	n-Nonane (C9)	1.03	344917975	942.040 ng
3) T	n-Decane (C10)	1.72	349009154	945.455 ng
4) T	n-Dodecane (C12)	3.05	353246825	954.103 ng
5) T	n-Tetradecane (C14)	4.16	354598965	960.414 ng
6) T	n-Hexadecane (C16)	5.13	355612566	963.669 ng
7) T	n-Octadecane (C18)	6.12	362417576	968.075 ng
8) T	n-Eicosane (C20)	7.88	359245149	956.874 ng
9) T	n-Heneicosane (C21)	8.52	356044662	942.601 ng
10) T	n-Docosane (C22)	8.97	360322079	951.065 ng
11) T	n-Tetracosane (C24)	9.64	359605734	956.298 ng
12) T	n-Hexacosane (C26)	10.18	359075302	956.798 ng
13) T	n-Octacosane (C28)	10.64	359687442	954.814 ng
14) T	n-Triacontane (C30)	11.06	359068149	952.914 ng
15) T	n-Dotriacontane (C32)	11.45	350913035	943.627 ng
16) T	n-Tetratriacontane (C34)	11.82	331818034	915.044 ng
17) T	n-Hexatriacontane (C36)	12.17	314518651	888.921 ng
18) T	n-Octatriacontane (C38)	12.52	299928842	896.889 ng
19) T	n-Tetracontane (C40)	12.93	297561078	931.816 ng
20) H	C9-C28	5.80	4313445917	11144.362 ng
21) H	C28-C40	12.00	1979453042	5151.351 ng
22) H	C9-C40	7.00	6312954691	15877.301 ng

(f)=RT Delta > 1/2 Window (m)=manual int.

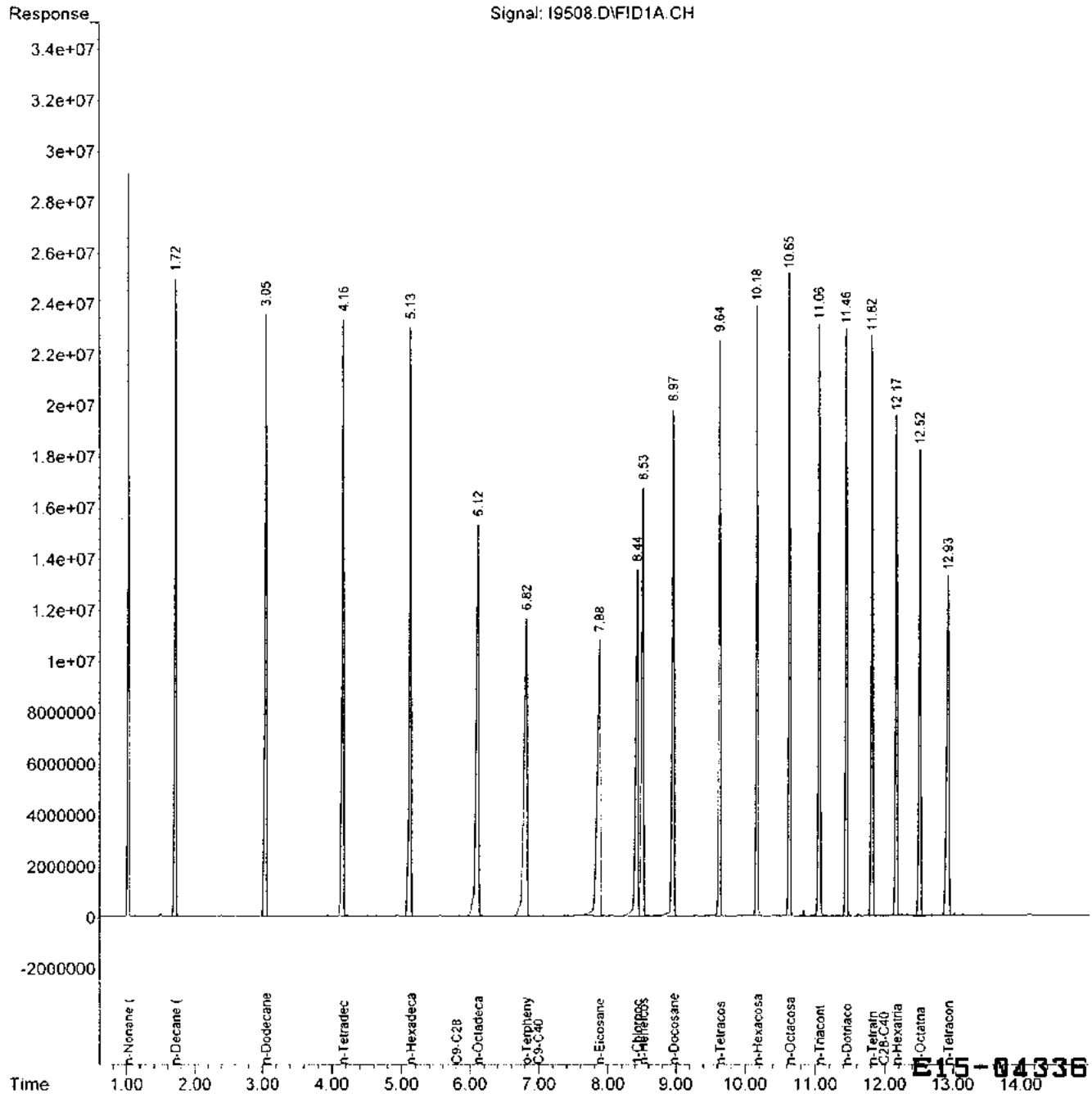
E15-04336 0157

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\05-28-15\
Data File : I9508.D
Signal(s) : FID1A.CH
Acq On : 28 May 2015 15:01
Operator : JOLANTA
Sample : ALI_L5_IAS_5294,1000_PPM
Misc : ,NA,NA,1
ALS Vial : 2 Sample Multiplier: 1

Integration File: AUTOINT1.E
Quant Time: May 29 12:03:41 2015
Quant Method : C:\MSDCHEM\1\METHODS\IEPH0528.M
Quant Title :
QLast Update : Fri May 29 12:03:14 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :



E15-04336 0158

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\05-28-15\
Data File : I9509.D
Signal(s) : FID1A.CH
Acq On : 28 May 2015 15:23
Operator : JOLANTA
Sample : ALI_L4_IAS_5295,500_PPM
Misc : ,NA,NA,1
ALS Vial : 3 Sample Multiplier: 1

Integration File: AUTOINT1.E
Quant Time: May 29 12:04:00 2015
Quant Method : C:\MSDCHEM\1\METHODS\IEPH0528.M
Quant Title :
QLast Update : Fri May 29 12:03:14 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	System Monitoring Compounds			
1) S	1-Chlorooctadecane	8.42	139977345	463.993 ng
Spiked Amount	100.000		Recovery =	463.99%
23) S	o-Terphenyl	6.79	175190673	454.665 ng
Spiked Amount	100.000		Recovery =	454.67%
	Target Compounds			
2) T	n-Nonane (C9)	1.02	163605477	446.839 ng
3) T	n-Decane (C10)	1.71	165563845	448.507 ng
4) T	n-Dodecane (C12)	3.04	167627036	452.753 ng
5) T	n-Tetradecane (C14)	4.15	168657365	456.800 ng
6) T	n-Hexadecane (C16)	5.12	169400590	459.056 ng
7) T	n-Octadecane (C18)	6.10	172682373	461.262 ng
8) T	n-Eicosane (C20)	7.85	172102822	458.408 ng
9) T	n-Heneicosane (C21)	8.50	170900058	452.445 ng
10) T	n-Docosane (C22)	8.95	173684467	458.438 ng
11) T	n-Tetracosane (C24)	9.63	172284203	458.155 ng
12) T	n-Hexacosane (C26)	10.17	171395233	456.703 ng
13) T	n-Octacosane (C28)	10.63	171473463	455.187 ng
14) T	n-Triacontane (C30)	11.05	170978936	453.753 ng
15) T	n-Dotriacontane (C32)	11.44	168299491	452.568 ng
16) T	n-Tetratriacontane (C34)	11.81	163016228	449.544 ng
17) T	n-Hexatriacontane (C36)	12.16	156195694	441.454 ng
18) T	n-Octatriacontane (C38)	12.51	144876311	433.229 ng
19) T	n-Tetracontane (C40)	12.91	139332874	436.323 ng
20) H	C9-C28	5.80	2063580941	5331.536 ng
21) H	C28-C40	12.00	962631739	2505.164 ng
22) H	C9-C40	7.00	3043980100	7655.716 ng

(f)=RT Delta > 1/2 Window (m)=manual int.

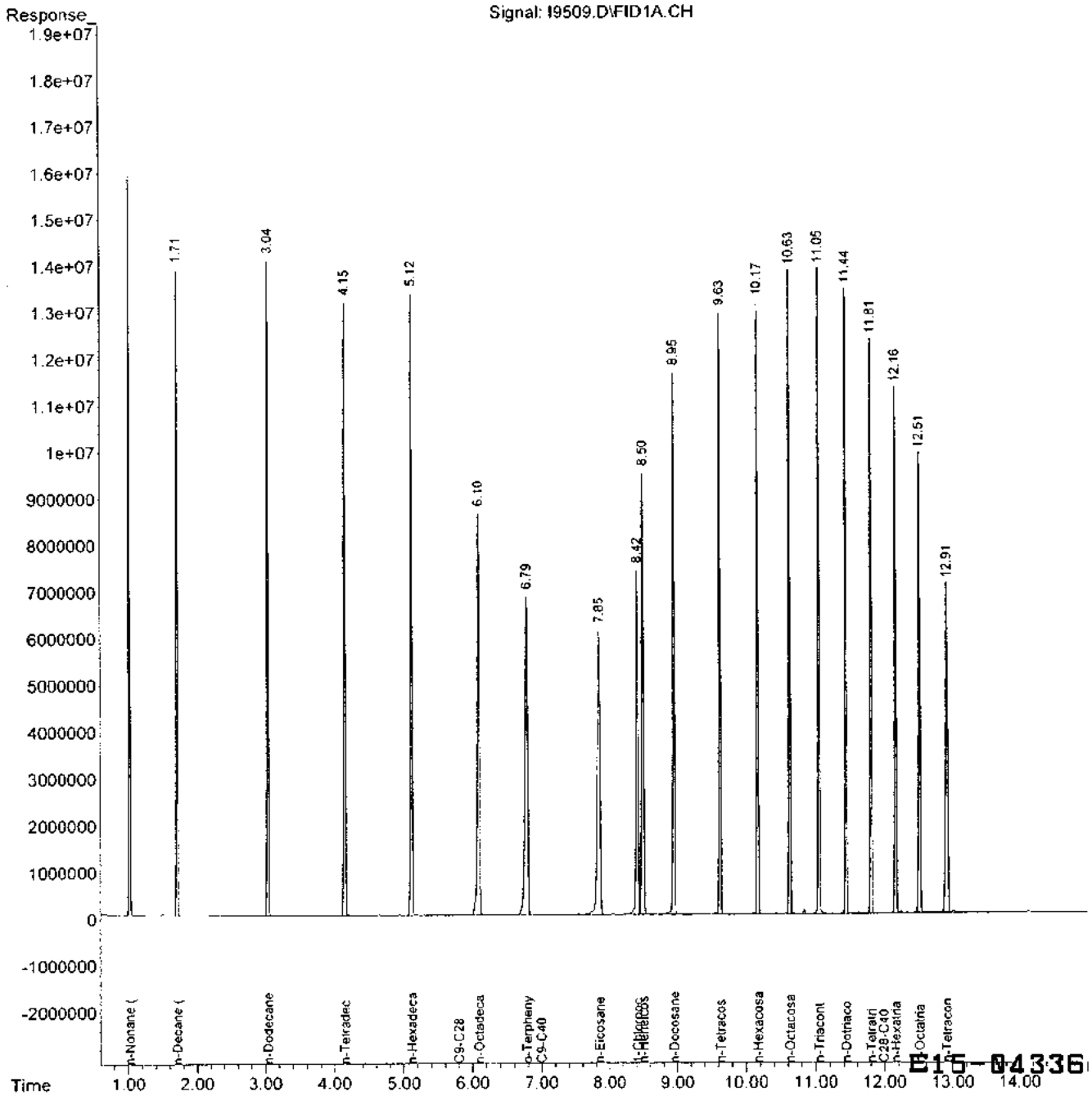
E15-04336 0159

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\05-28-15\
Data File : I9509.D
Signal(s) : FID1A.CH
Acq On : 28 May 2015 15:23
Operator : JOLANTA
Sample : ALI_L4_IAS_5295,500_PPM
Misc : ,NA,NA,1
ALS Vial : 3 Sample Multiplier: 1

Integration File: AUTOINT1.E
Quant Time: May 29 12:04:00 2015
Quant Method : C:\MSDCHEM\1\METHODS\IEPH0528.M
Quant Title :
QLast Update : Fri May 29 12:03:14 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\05-28-15\
Data File : 19510.D
Signal(s) : FID1A.CH
Acq On : 28 May 2015 15:45
Operator : JOLANTA
Sample : ALI_L3_IAS_5296,250_PPM
Misc : ,NA,NA,1
ALS Vial : 4 Sample Multiplier: 1

Integration File: AUTOINT1.E
Quant Time: May 29 12:04:06 2015
Quant Method : C:\MSDCHEM\1\METHODS\IEPH0528.M
Quant Title :
QLast Update : Fri May 29 12:03:14 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	System Monitoring Compounds			
1) S	1-Chlorooctadecane	8.41	68587857	227.353 ng
Spiked Amount	100.000		Recovery =	227.35%
23) S	o-Terphenyl	6.77	86890096	225.502 ng
Spiked Amount	100.000		Recovery =	225.50%
	Target Compounds			
2) T	n-Nonane (C9)	1.02	82239763	224.613 ng
3) T	n-Decane (C10)	1.70	83179930	225.332 ng
4) T	n-Dodecane (C12)	3.03	83924014	226.675 ng
5) T	n-Tetradecane (C14)	4.14	84031318	227.595 ng
6) T	n-Hexadecane (C16)	5.11	84198688	228.169 ng
7) T	n-Octadecane (C18)	6.08	85581272	228.601 ng
8) T	n-Eicosane (C20)	7.83	85246881	227.061 ng
9) T	n-Heneicosane (C21)	8.49	85421834	226.148 ng
10) T	n-Docosane (C22)	8.94	86158208	227.413 ng
11) T	n-Tetracosane (C24)	9.62	85179772	226.518 ng
12) T	n-Hexacosane (C26)	10.16	84891679	226.204 ng
13) T	n-Octacosane (C28)	10.62	85146420	226.027 ng
14) T	n-Triacontane (C30)	11.05	85096565	225.834 ng
15) T	n-Dotriacontane (C32)	11.43	84154140	226.296 ng
16) T	n-Tetratriacontane (C34)	11.80	82727672	228.135 ng
17) T	n-Hexatriacontane (C36)	12.16	81675849	230.840 ng
18) T	n-Octatriacontane (C38)	12.50	77219856	230.914 ng
19) T	n-Tetracontane (C40)	12.90	72925590	228.367 ng
20) H	C9-C28	5.80	1034176192	2671.932 ng
21) H	C28-C40	12.00	500664064	1302.934 ng
22) H	C9-C40	7.00	1551844715	3902.944 ng

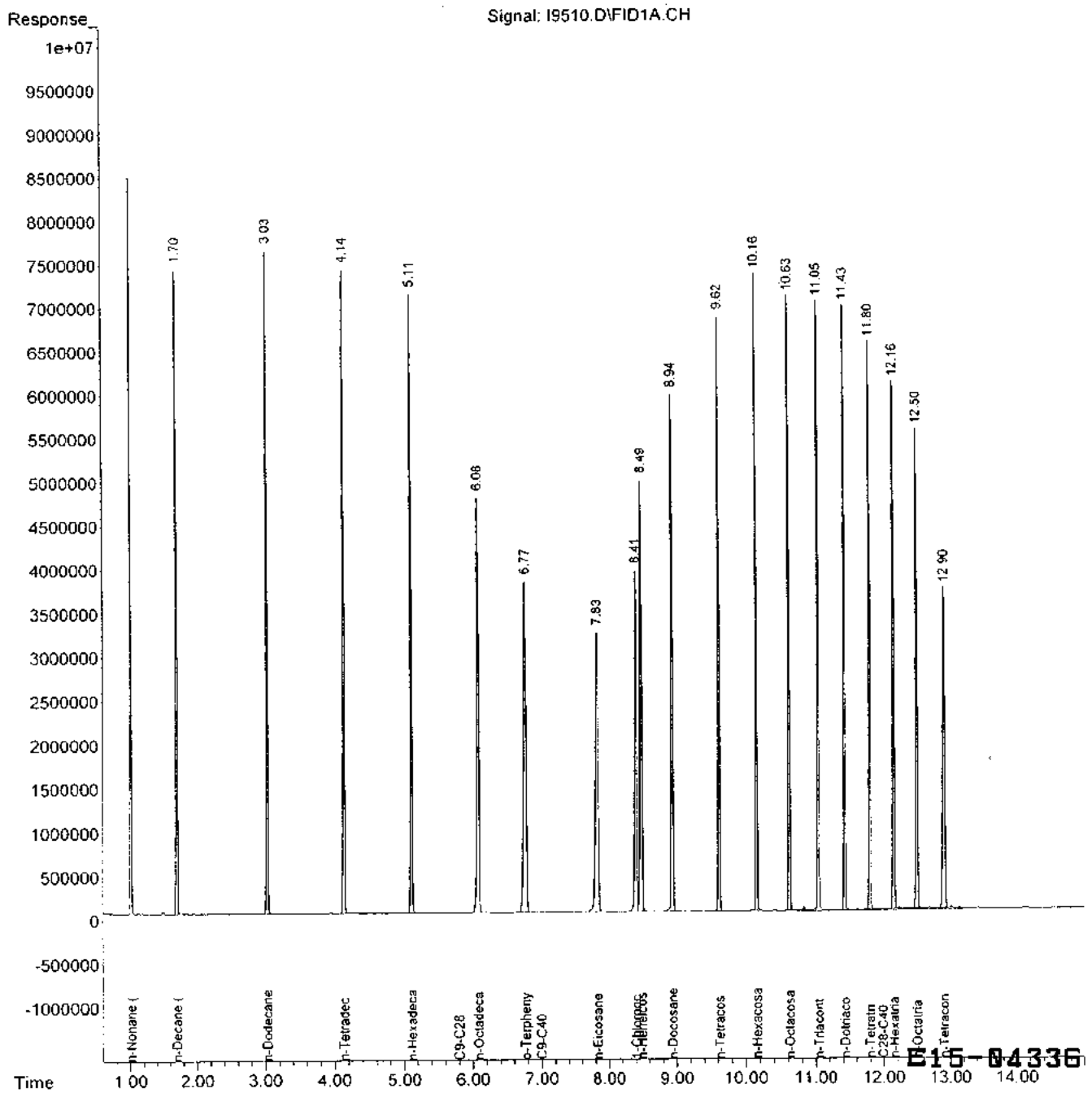
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\05-28-15\
Data File : I9510.D
Signal(s) : FID1A.CH
Acq On : 28 May 2015 15:45
Operator : JOLANTA
Sample : ALI_L3_IAS_5296,250_PPM
Misc : ,NA,NA,1
ALS Vial : 4 Sample Multiplier: 1

Integration File: AUTOINT1.E
Quant Time: May 29 12:04:06 2015
Quant Method : C:\MSDCHEM\1\METHODS\IEPH0528.M
Quant Title :
QLast Update : Fri May 29 12:03:14 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\05-28-15\
Data File : I9511.D
Signal(s) : FID1A.CH
Acq On : 28 May 2015 16:08
Operator : JOLANTA
Sample : ALI_L2_IAS_5297,100_PPM
Misc : ,NA,NA,1
ALS Vial : 5 Sample Multiplier: 1

Integration File: AUTOINT1.E
Quant Time: May 29 12:04:12 2015
Quant Method : C:\MSDCHEM\1\METHODS\IEPH0528.M
Quant Title :
QLast Update : Fri May 29 12:03:14 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	System Monitoring Compounds			
1) S	1-Chlorooctadecane	8.40	30646121	101.585 ng
Spiked Amount	100.000		Recovery =	101.58%
23) S	o-Terphenyl	6.76	39405987	102.269 ng
Spiked Amount	100.000		Recovery =	102.27%
	Target Compounds			
2) T	n-Nonane (C9)	1.02	37540399	102.530 ng
3) T	n-Decane (C10)	1.70	37821583	102.457 ng
4) T	n-Dodecane (C12)	3.03	38013152	102.672 ng
5) T	n-Tetradecane (C14)	4.14	37930009	102.732 ng
6) T	n-Hexadecane (C16)	5.11	37898929	102.702 ng
7) T	n-Octadecane (C18)	6.08	38488450	102.809 ng
8) T	n-Eicosane (C20)	7.82	38431611	102.365 ng
9) T	n-Heneicosane (C21)	8.48	38916987	103.030 ng
10) T	n-Docosane (C22)	8.94	38778666	102.356 ng
11) T	n-Tetracosane (C24)	9.62	38527673	102.456 ng
12) T	n-Hexacosane (C26)	10.16	38449150	102.452 ng
13) T	n-Octacosane (C28)	10.62	38542337	102.313 ng
14) T	n-Triacontane (C30)	11.04	38633533	102.528 ng
15) T	n-Dotriacontane (C32)	11.43	38027053	102.257 ng
16) T	n-Tetratriacontane (C34)	11.80	37314536	102.901 ng
17) T	n-Hexatriacontane (C36)	12.16	36738694	103.834 ng
18) T	n-Octatriacontane (C38)	12.50	34658440	103.640 ng
19) T	n-Tetracontane (C40)	12.90	32702187	102.407 ng
20) H	C9-C28	5.80	473567984	1223.526 ng
21) H	C28-C40	12.00	233091981	606.601 ng
22) H	C9-C40	7.00	722765866	1817.781 ng

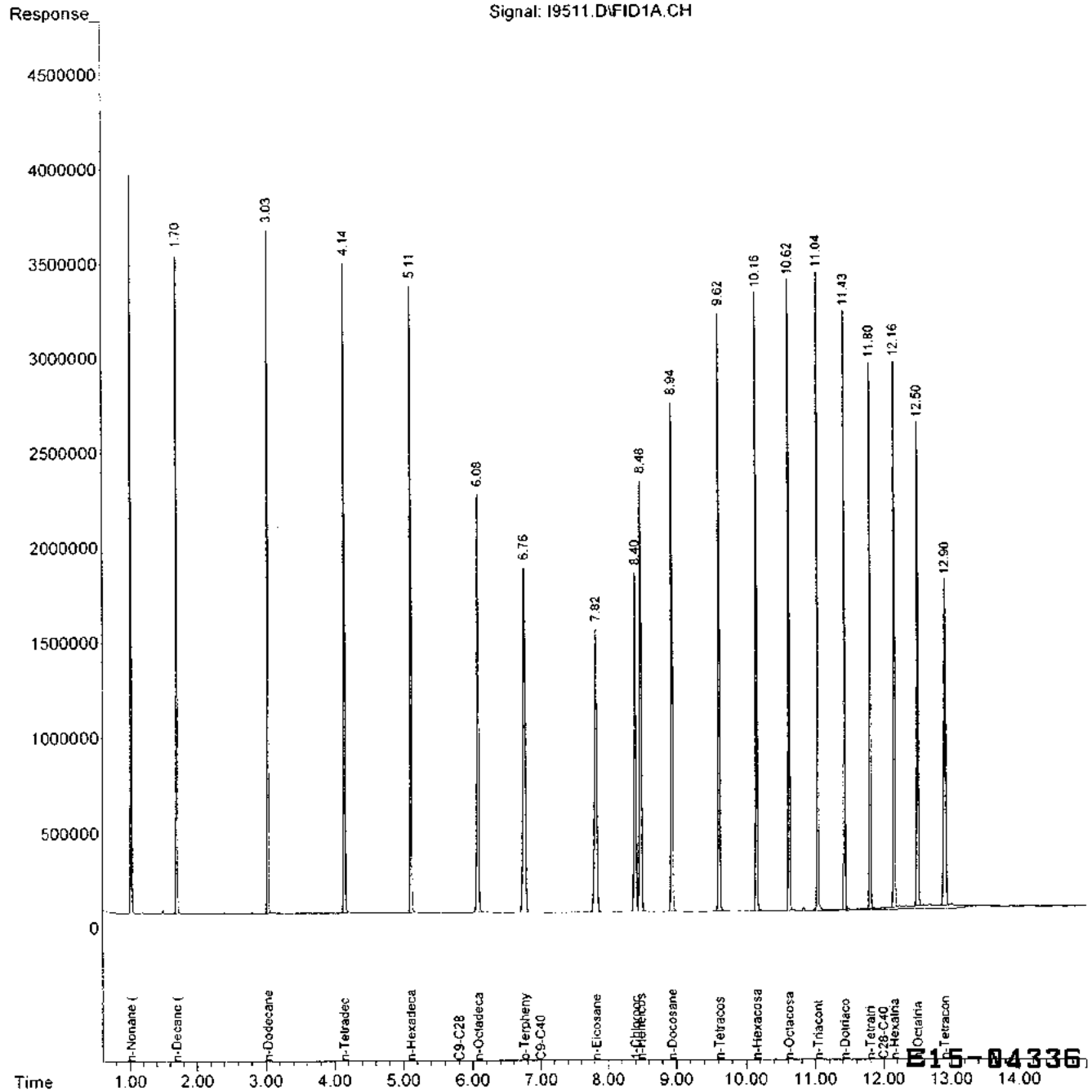
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\05-28-15\
Data File : I9511.D
Signal(s) : FID1A.CH
Acq On : 28 May 2015 16:08
Operator : JOLANTA
Sample : ALI_L2_IAS_5297,100_PPM
Misc : ,NA,NA,1
ALS Vial : 5 Sample Multiplier: 1

Integration File: AUTOINT1.E
Quant Time: May 29 12:04:12 2015
Quant Method : C:\MSDCHEM\1\METHODS\IEPH0528.M
Quant Title :
QLast Update : Fri May 29 12:03:14 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\05-28-15\
Data File : I9512.D
Signal(s) : FID1A.CH
Acq On : 28 May 2015 17:24
Operator : JOLANTA
Sample : ALI_L1_IAS_5298,20_PPM
Misc : ,NA,NA,1
ALS Vial : 6 Sample Multiplier: 1

Integration File: AUTOINT1.E
Quant Time: May 29 12:04:18 2015
Quant Method : C:\MSDCHEM\1\METHODS\IEPH0528.M
Quant Titlo :
QLast Update : Fri May 29 12:03:14 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	System Monitoring Compounds			
1) S	1-Chlorooctadecane	8.40	7057800	23.395 ng
Spiked Amount	100.000		Recovery =	23.40%
23) S	o-Terphenyl	6.76	9351441	24.269 ng
Spiked Amount	100.000		Recovery =	24.27%
	Target Compounds			
2) T	n-Nonane (C9)	1.02	9084087	24.810 ng
3) T	n-Decane (C10)	1.70	9092983	24.633 ng
4) T	n-Dodecane (C12)	3.03	8937399	24.139 ng
5) T	n-Tetradecane (C14)	4.14	8774695	23.766 ng
6) T	n-Hexadecane (C16)	5.11	8697972	23.571 ng
7) T	n-Octadecane (C18)	6.07	8737108	23.338 ng
8) T	n-Eicosane (C20)	7.82	8968513	23.888 ng
9) T	n-Heneicosane (C21)	8.48	9198545	24.352 ng
10) T	n-Docosane (C22)	8.94	9083968	23.977 ng
11) T	n-Tetracosane (C24)	9.62	9000551	23.935 ng
12) T	n-Hexacosane (C26)	10.15	9010362	24.009 ng
13) T	n-Octacosane (C28)	10.62	9098087	24.151 ng
14) T	n-Triacontane (C30)	11.04	9126117	24.219 ng
15) T	n-Dotriacontane (C32)	11.43	9099721	24.470 ng
16) T	n-Tetratriacontane (C34)	11.79	9024409	24.886 ng
17) T	n-Hexatriacontane (C36)	12.15	8962059	25.329 ng
18) T	n-Octatriacontane (C38)	12.49	8538124	25.532 ng
19) T	n-Tetracontane (C40)	12.89	8034431	25.160 ng
20) H	C9-C28	5.80	118202366	305.392 ng
21) H	C28-C40	12.00	65789572	171.212 ng
22) H	C9-C40	7.00	198976796	500.434 ng

(f)=RT Delta > 1/2 Window (m)=manual int.

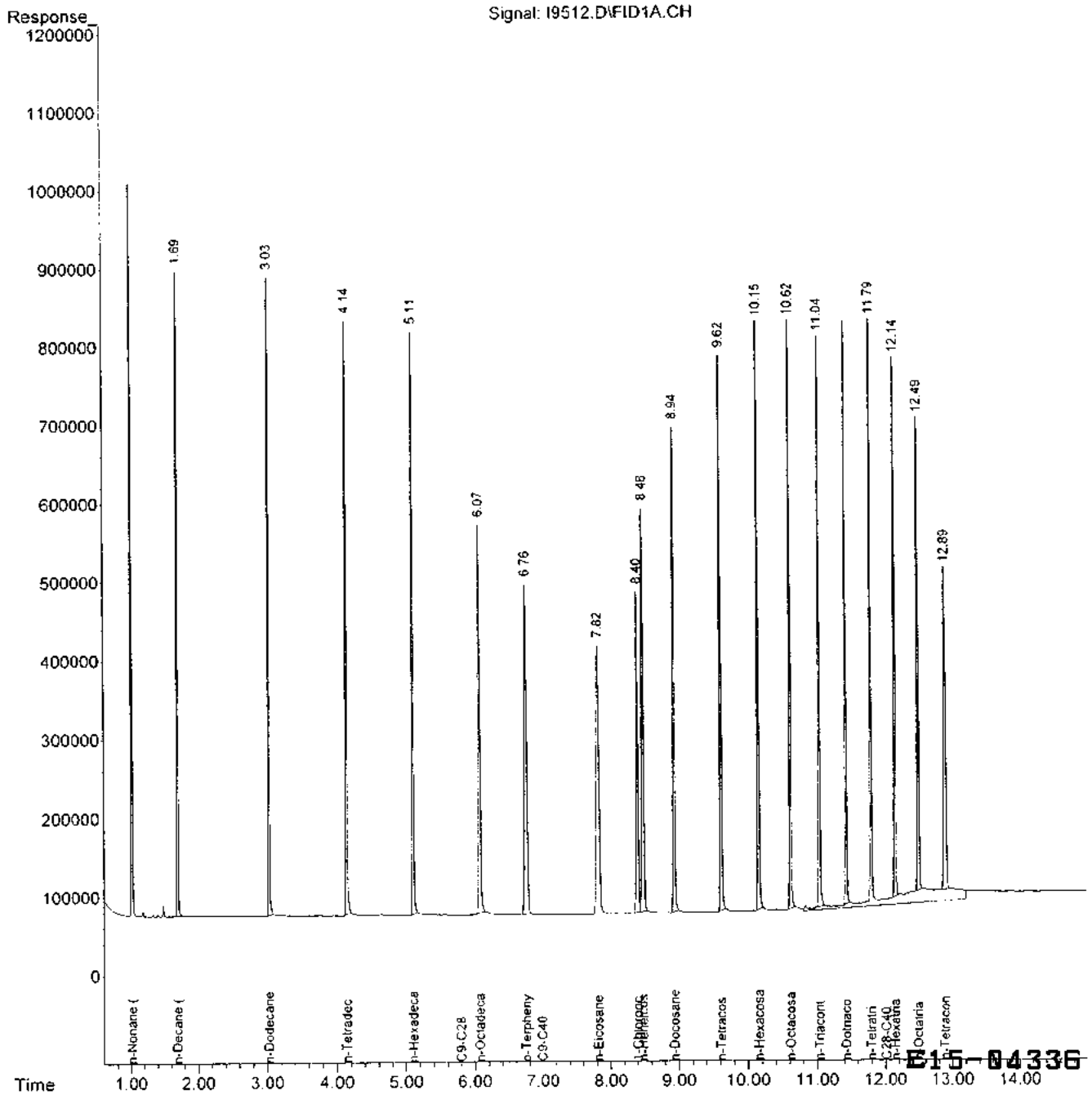
E15-04336 0165

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\05-28-15\
Data File : I9512.D
Signal(s) : FID1A.CH
Acq On : 28 May 2015 17:24
Operator : JOLANTA
Sample : ALI_L1_IAS_5298,20_PPM
Misc : ,NA,NA,1
ALS Vial : 6 Sample Multiplier: 1

Integration File: AUTOINT1.E
Quant Time: May 29 12:04:18 2015
Quant Method : C:\MSDCHEM\1\METHODS\IEPH0528.M
Quant Title :
QLast Update : Fri May 29 12:03:14 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :



E15-04336 0166

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\05-28-15\
Data File : I9513.D
Signal(s) : FID1A.CH
Acq On : 28 May 2015 17:46
Operator : JOLANTA
Sample : ALI_C_IAS_5296,250_PPM
Misc : ,NA,NA,1
ALS Vial : 7 Sample Multiplier: 1

Integration File: AUTOINT1.E
Quant Time: May 29 12:06:32 2015
Quant Method : C:\MSDCHEM\1\METHODS\IEPH0528.M
Quant Title :
QLast Update : Fri May 29 12:05:27 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	System Monitoring Compounds			
1) S	1-Chlorooctadecane	8.41	62895821	208.485 ng
Spiked Amount	100.000		Recovery =	208.49%
23) S	o-Terphenyl	6.77	79678213	206.786 ng
Spiked Amount	100.000		Recovery =	206.79%
	Target Compounds			
2) T	n-Nonane (C9)	1.02	75472650	206.131 ng
3) T	n-Decane (C10)	1.70	76242741	206.539 ng
4) T	n-Dodecane (C12)	3.03	76901247	207.707 ng
5) T	n-Tetradecane (C14)	4.14	77005661	208.566 ng
6) T	n-Hexadecane (C16)	5.11	77167473	209.115 ng
7) T	n-Octadecane (C18)	6.09	78493717	209.669 ng
8) T	n-Eicosane (C20)	7.83	78384185	208.782 ng
9) T	n-Heneicosane (C21)	8.49	78727010	208.424 ng
10) T	n-Docosane (C22)	8.94	79332540	209.397 ng
11) T	n-Tetracosane (C24)	9.62	78380070	208.436 ng
12) T	n-Hexacosane (C26)	10.16	79052495	210.645 ng
13) T	n-Octacosane (C28)	10.62	79202291	210.248 ng
14) T	n-Triacontane (C30)	11.05	79536152	211.077 ng
15) T	n-Dotriacontane (C32)	11.43	78581042	211.309 ng
16) T	n-Tetratriacontane (C34)	11.80	77605783	214.011 ng
17) T	n-Hexatriacontane (C36)	12.14	76864327	217.241 ng
18) T	n-Octatriacontane (C38)	12.48	73336284	219.300 ng
19) T	n-Tetracontane (C40)	12.88	69218273	216.758 ng
20) H	C9-C28	5.80	952626632	2461.238 ng
21) H	C28-C40	12.00	471600748	1227.299 ng
22) H	C9-C40	7.00	1439150609	3619.514 ng

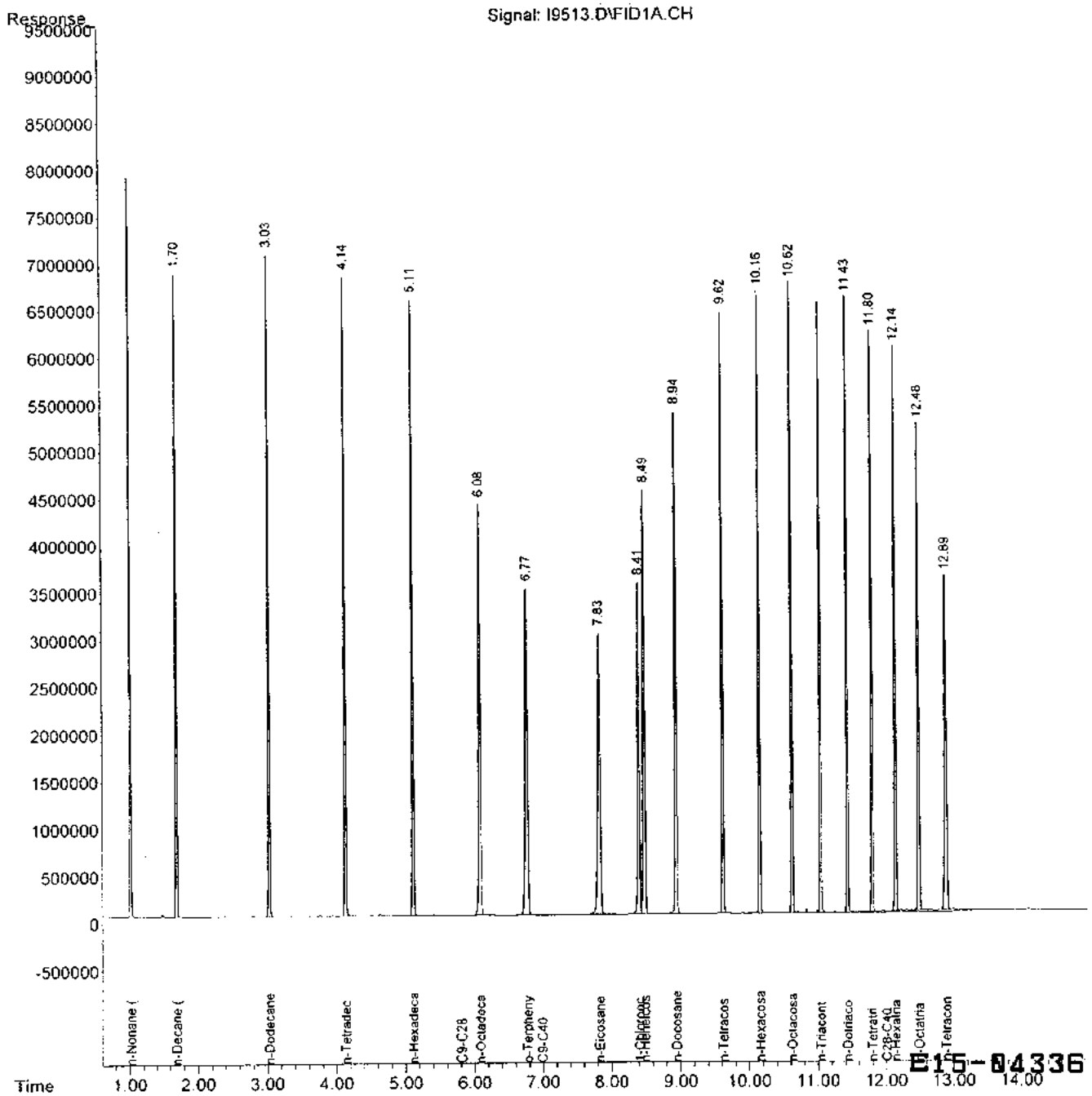
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\05-28-15\
Data File : I9513.D
Signal(s) : FID1A.CH
Acq On : 28 May 2015 17:46
Operator : JOLANTA
Sample : ALI_C_IAS_5296,250_PPM
Misc : ,NA,NA,1
ALS Vial : 7 Sample Multiplier: 1

Integration File: AUTOINT1.E
Quant Time: May 29 12:06:32 2015
Quant Method : C:\MSDCHEM\1\METHODS\IEPH0528.M
Quant Title :
QLast Update : Fri May 29 12:05:27 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :



NJ-EPH-DRO CALIBRATION VERIFICATION SUMMARY

Date/Time Analyzed: 05/29/2015 **Instrument ID:** GC-I

Data File: I9516.D **GC Column :** RTX-5

Compound	RT	RT WINDOW FROM	RT WINDOW TO	Avg CF	CC CF	%D
n-Nonane (C9)	1.02	0.93	1.11	366139	327444	10.57
n-Decane (C10)	1.70	1.61	1.79	369144	332177	10.01
n-Dodecane (C12)	3.03	2.95	3.13	370240	334539	9.64
n-Tetradecane (C14)	4.14	4.05	4.25	369215	334470	9.41
n-Hexadecane (C16)	5.11	5.02	5.22	369019	335613	9.05
n-Octadecane (C18)	6.09	5.99	6.19	374369	341122	8.88
n-Eicosane (C20)	7.83	7.73	7.95	375436	340571	9.29
n-Heneicosane (C21)	8.49	8.38	8.60	377726	338973	10.26
n-Docosane (C22)	8.94	8.84	9.06	378862	344239	9.14
n-Tetracosane (C24)	9.62	9.51	9.75	376040	340539	9.44
n-Hexacosane (C26)	10.16	10.04	10.28	375288	340954	9.15
n_Octacosane (C28)	10.62	10.51	10.75	376710	343830	8.73
n-Triacontane (C30)	11.05	10.92	11.18	376811	345203	8.39
n-Dotriacontane (C32)	11.44	11.31	11.57	371877	342425	7.92
n-Tetratriacontane (C34)	11.83	11.68	11.94	362625	334093	7.87
n-Hexatriacontane (C36)	12.20	12.01	12.31	353821	325819	7.91
n-Octatriacontane (C38)	12.56	12.35	12.65	334410	303999	9.09
n-Tetracontane (C40)	12.97	12.76	13.06	319335	287828	9.87
C9-C28	5.80	5.65	5.95	387052	345608	10.71
C28-C40	12.00	11.85	12.15	384259	333679	13.16
C9-C40	7.00	6.85	7.15	397609	344470	13.36

NJ-EPH-DRO CALIBRATION VERIFICATION SUMMARY

Date/Time Analyzed: 05/29/2015 **Instrument ID:** GC-I

Data File: I9540.D **GC Column :** RTX-5

Compound	RT	RT WINDOW FROM	RT WINDOW TO	Avg CF	CC CF	%D
n-Nonane (C9)	1.02	0.93	1.11	366139	339274	7.34
n-Decane (C10)	1.70	1.61	1.79	369144	344417	6.70
n-Dodecane (C12)	3.03	2.95	3.13	370240	346822	6.33
n-Tetradecane (C14)	4.15	4.05	4.25	369215	346583	6.13
n-Hexadecane (C16)	5.12	5.02	5.22	369019	346534	6.09
n-Octadecane (C18)	6.09	5.99	6.19	374369	350785	6.30
n-Eicosane (C20)	7.84	7.73	7.95	375436	345165	8.06
n-Heneicosane (C21)	8.49	8.38	8.60	377726	344190	8.88
n-Docosane (C22)	8.95	8.84	9.06	378862	345276	8.86
n-Tetracosane (C24)	9.63	9.51	9.75	376040	335510	10.78
n-Hexacosane (C26)	10.16	10.04	10.28	375288	322575	14.05
n_Octacosane (C28)	10.63	10.51	10.75	376710	306333	18.68
n-Triacontane (C30)	11.05	10.92	11.18	376811	296238	21.38
n-Dotriacontane (C32)	11.44	11.31	11.57	371877	291837	21.52
n-Tetratriacontane (C34)	11.80	11.68	11.94	362625	290198	19.97
n-Hexatriacontane (C36)	12.15	12.01	12.31	353821	290987	17.76
n-Octatriacontane (C38)	12.49	12.35	12.65	334410	283031	15.36
n-Tetracontane (C40)	12.90	12.76	13.06	319335	280913	12.03
C9-C28	5.80	5.65	5.95	387052	347833	10.13
C28-C40	12.00	11.85	12.15	384259	352695	8.21
C9-C40	7.00	6.85	7.15	397609	370261	6.88

NJ-EPH-DRO CALIBRATION VERIFICATION SUMMARY

Date/Time Analyzed: 06/01/2015 Instrument ID: GC-I

Data File: I9542.D GC Column : RTX-5

Compound	RT	RT WINDOW FROM	RT WINDOW TO	Avg CF	CC CF	%D
n-Nonane (C9)	1.02	0.93	1.11	366139	353048	3.58
n-Decane (C10)	1.70	1.61	1.79	369144	362265	1.86
n-Dodecane (C12)	3.04	2.95	3.13	370240	365797	1.20
n-Tetradecane (C14)	4.15	4.05	4.25	369215	366032	0.86
n-Hexadecane (C16)	5.12	5.02	5.22	369019	366480	0.69
n-Octadecane (C18)	6.09	5.99	6.19	374369	371852	0.67
n-Eicosane (C20)	7.84	7.73	7.95	375436	367910	2.00
n-Heneicosane (C21)	8.50	8.38	8.60	377726	365066	3.35
n-Docosane (C22)	8.95	8.84	9.06	378862	369912	2.36
n-Tetracosane (C24)	9.63	9.51	9.75	376040	362518	3.60
n-Hexacosane (C26)	10.16	10.04	10.28	375288	355332	5.32
n_Octacosane (C28)	10.63	10.51	10.75	376710	343742	8.75
n-Triacontane (C30)	11.05	10.92	11.18	376811	330518	12.29
n-Dotriacontane (C32)	11.45	11.31	11.57	371877	318511	14.35
n-Tetratriacontane (C34)	11.82	11.68	11.94	362625	312814	13.74
n-Hexatriacontane (C36)	12.19	12.01	12.31	353821	311849	11.86
n-Octatriacontane (C38)	12.55	12.35	12.65	334410	302571	9.52
n-Tetracontane (C40)	12.96	12.76	13.06	319335	297550	6.82
C9-C28	5.80	5.65	5.95	387052	368299	4.85
C28-C40	12.00	11.85	12.15	384259	359378	6.48
C9-C40	7.00	6.85	7.15	397609	376354	5.35

NJ-EPH-DRO CALIBRATION VERIFICATION SUMMARY

Date/Time Analyzed: 06/01/2015 **Instrument ID:** GC-I

Data File: I9546.D **GC Column :** RTX-5

Compound	RT	RT WINDOW FROM	RT WINDOW TO	Avg CF	CC CF	%D
n-Nonane (C9)	1.02	0.93	1.11	366139	365515	0.17
n-Decane (C10)	1.70	1.61	1.79	369144	374675	1.50
n-Dodecane (C12)	3.04	2.95	3.13	370240	378086	2.12
n-Tetradecane (C14)	4.15	4.05	4.25	369215	377896	2.35
n-Hexadecane (C16)	5.12	5.02	5.22	369019	378127	2.47
n-Octadecane (C18)	6.09	5.99	6.19	374369	383586	2.46
n-Eicosane (C20)	7.84	7.73	7.95	375436	378299	0.76
n-Heneicosane (C21)	8.49	8.38	8.60	377726	377900	0.05
n-Docosane (C22)	8.95	8.84	9.06	378862	380178	0.35
n-Tetracosane (C24)	9.63	9.51	9.75	376040	371175	1.29
n-Hexacosane (C26)	10.16	10.04	10.28	375288	360534	3.93
n_Octacosane (C28)	10.63	10.51	10.75	376710	345598	8.26
n-Triacontane (C30)	11.05	10.92	11.18	376811	333066	11.61
n-Dotriacontane (C32)	11.44	11.31	11.57	371877	324645	12.70
n-Tetratriacontane (C34)	11.82	11.68	11.94	362625	321057	11.46
n-Hexatriacontane (C36)	12.19	12.01	12.31	353821	321805	9.05
n-Octatriacontane (C38)	12.54	12.35	12.65	334410	313244	6.33
n-Tetracontane (C40)	12.95	12.76	13.06	319335	307440	3.72
C9-C28	5.80	5.65	5.95	387052	379348	1.99
C28-C40	12.00	11.85	12.15	384259	369098	3.95
C9-C40	7.00	6.85	7.15	397609	385323	3.09

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\05-29-15\
Data File : I9516.D
Signal(s) : FID1A.CH
Acq On : 29 May 2015 13:19
Operator : JOLANTA
Sample : ALI_C_IAS_5296,250_PPM
Misc : ,NA,NA,1
ALS Vial : 2 Sample Multiplier: 1

Integration File: AUTOINT1.E
Quant Time: May 29 13:36:24 2015
Quant Method : C:\MSDCHEM\1\METHODS\IEPH0528.M
Quant Title :
QLast Update : Fri May 29 12:05:27 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	System Monitoring Compounds			
1) S	1-Chlorooctadecane	8.41	68813461	228.101 ng
Spiked Amount	100.000		Recovery =	228.10%
23) S	o-Terphenyl	6.77	86321999	224.028 ng
Spiked Amount	100.000		Recovery =	224.03%
	Target Compounds			
2) T	n-Nonane (C9)	1.02	81861122	223.579 ng
3) T	n-Decane (C10)	1.70	83044282	224.964 ng
4) T	n-Dodecane (C12)	3.03	83634786	225.894 ng
5) T	n-Tetradecane (C14)	4.14	83617602	226.474 ng
6) T	n-Hexadecane (C16)	5.11	83903127	227.368 ng
7) T	n-Octadecane (C18)	6.09	85280612	227.798 ng
8) T	n-Eicosane (C20)	7.83	85142674	226.783 ng
9) T	n-Heneicosane (C21)	8.49	84743308	224.351 ng
10) T	n-Docosane (C22)	8.94	86059691	227.153 ng
11) T	n-Tetracosane (C24)	9.62	85134638	226.398 ng
12) T	n-Hexacosane (C26)	10.16	85238451	227.128 ng
13) T	n-Octacosane (C28)	10.62	85957542	228.180 ng
14) T	n-Triacontane (C30)	11.05	86300756	229.029 ng
15) T	n-Dotriacontane (C32)	11.44	85606250	230.200 ng
16) T	n-Tetratriacontane (C34)	11.83	83523211	230.329 ng
17) T	n-Hexatriacontane (C36)	12.20	81454703	230.215 ng
18) T	n-Octatriacontane (C38)	12.56	75999718	227.265 ng
19) T	n-Tetracontane (C40)	12.97	71956910	225.334 ng
20) H	C9-C28	5.80	1036824156	2678.773 ng
21) H	C28-C40	12.00	500518808	1302.556 ng
22) H	C9-C40	7.00	1550113314	3898.589 ng

(f)=RT Delta > 1/2 Window (m)=manual int.

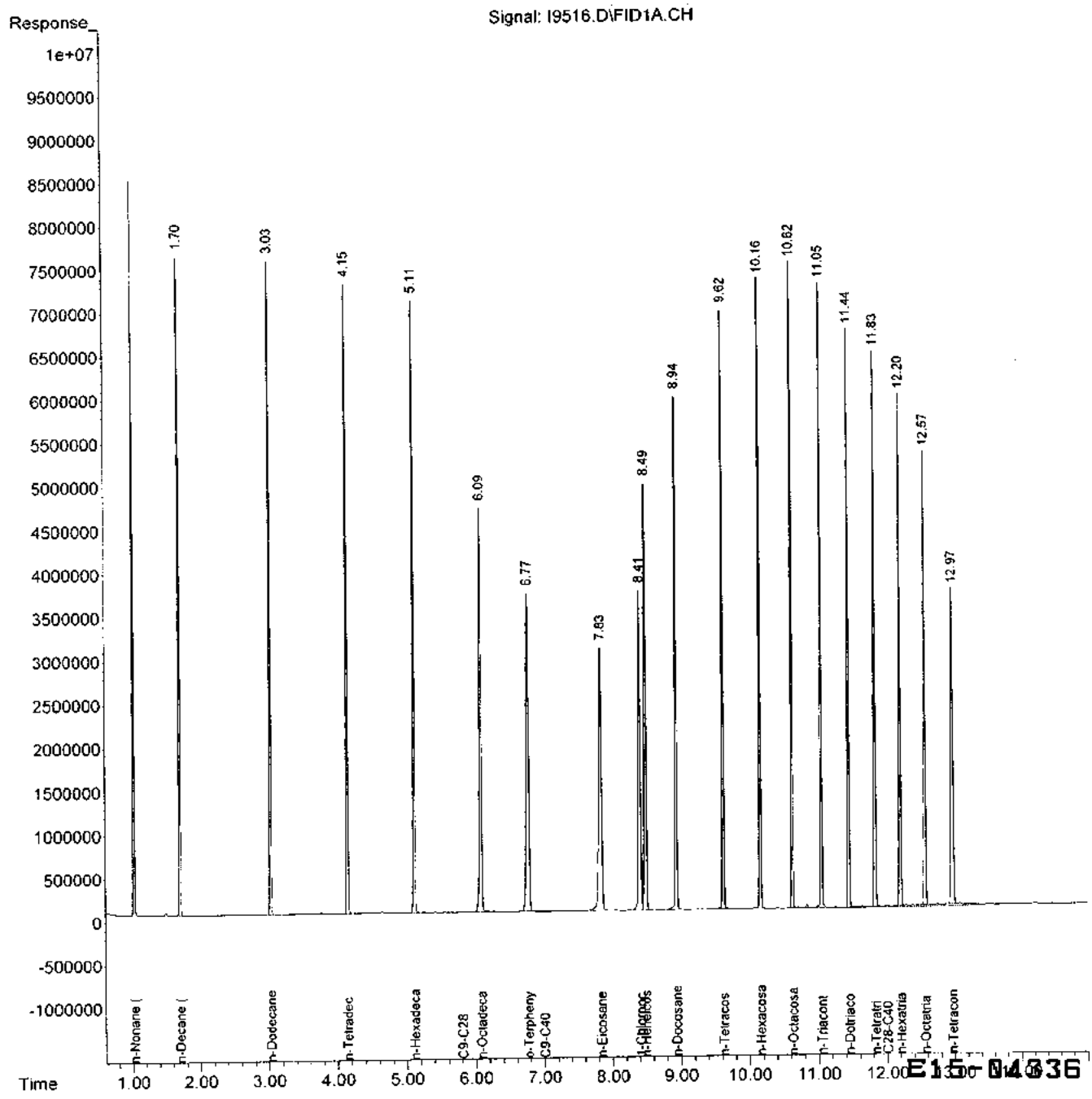
E15-04336 0173

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\05-29-15\
Data File : I9516.D
Signal(s) : FID1A.CH
Acq On : 29 May 2015 13:19
Operator : JOLANTA
Sample : ALI_C_IAS_5296,250_PPM
Misc : ,NA,NA,1
ALS Vial : 2 Sample Multiplier: 1

Integration File: AUTOINT1.E
Quant Time: May 29 13:36:24 2015
Quant Method : C:\MSDCHEM\1\METHODS\IEPH0528.M
Quant Title :
QLast Update : Fri May 29 12:05:27 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :



E15-04836 0174

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\05-29-15\
Data File : T9540.D
Signal(s) : FID1A.CH
Acq On : 29 May 2015 22:59
Operator : JOLANTA
Sample : ALI_C_IAS_5296,250_PPM
Misc : ,NA,NA,1
ALS Vial : 2 Sample Multiplier: 1

Integration File: AUTOINT1.E
Quant Time: May 30 12:05:19 2015
Quant Method : C:\MSDCHEM\1\METHODS\IEPH0528.M
Quant Title :
QLast Update : Fri May 29 12:05:27 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	System Monitoring Compounds			
1) S	1-Chlorooctadecane	8.41	68844484	228.204 ng
Spiked Amount	100.000		Recovery =	228.20%
23) S	o-Terphenyl	6.78	87284899	226.527 ng
Spiked Amount	100.000		Recovery =	226.53%
	Target Compounds			
2) T	n-Nonane (C9)	1.02	84818433	231.656 ng
3) T	n-Decane (C10)	1.70	86104132	233.253 ng
4) T	n-Dodecane (C12)	3.03	86705453	234.187 ng
5) T	n-Tetradecane (C14)	4.15	86645782	234.676 ng
6) T	n-Hexadecane (C16)	5.12	86633432	234.767 ng
7) T	n-Octadecane (C18)	6.09	87696317	234.251 ng
8) T	n-Eicosane (C20)	7.84	86291283	229.843 ng
9) T	n-Heneicosane (C21)	8.49	86047424	227.804 ng
10) T	n-Docosane (C22)	8.95	86319105	227.838 ng
11) T	n-Tetracosane (C24)	9.63	83877491	223.055 ng
12) T	n-Hexacosane (C26)	10.16	80643687	214.885 ng
13) T	n-Octacosane (C28)	10.63	76583254	203.295 ng
14) T	n-Triacontane (C30)	11.05	74059555	196.543 ng
15) T	n-Dotriacontane (C32)	11.44	72959357	196.192 ng
16) T	n-Tetratriacontane (C34)	11.80	72549470	200.067 ng
17) T	n-Hexatriacontane (C36)	12.15	72746849	205.604 ng
18) T	n-Octatriacontane (C38)	12.49	70757840	211.590 ng
19) T	n-Tetracontane (C40)	12.90	70228366	219.921 ng
20) H	C9-C28	5.80	1043500006	2696.021 ng
21) H	C28-C40	12.00	529043220	1376.788 ng
22) H	C9-C40	7.00	1666176631	4190.492 ng

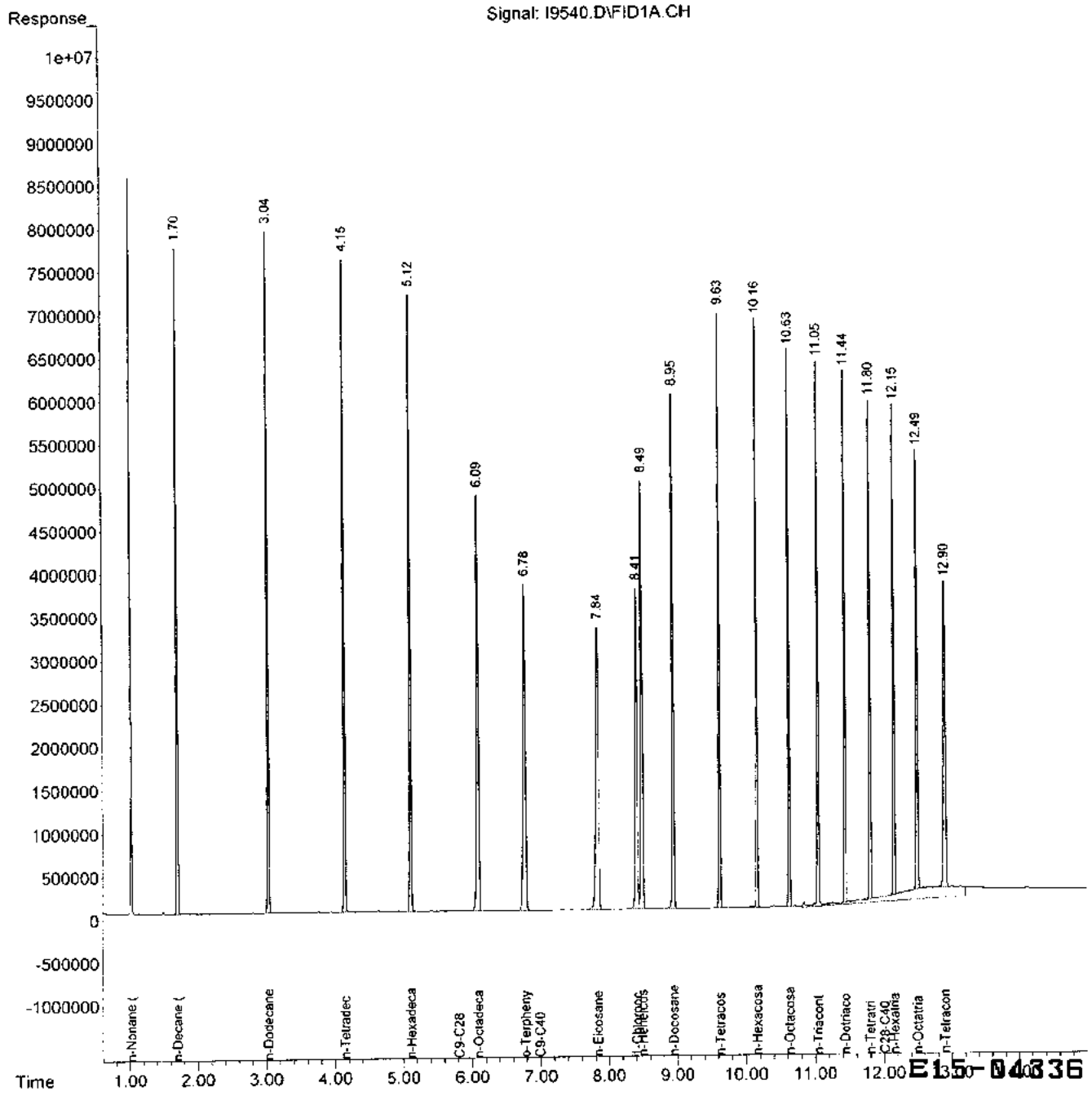
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\05-29-15\
Data File : I9540.D
Signal(s) : FID1A.CH
Acq On : 29 May 2015 22:59
Operator : JOLANTA
Sample : ALI_C_IAS_5296,250_PPM
Misc : ,NA,NA,1
ALS Vial : 2 Sample Multiplier: 1

Integration File: AUTOINT1.E
Quant Time: May 30 12:05:19 2015
Quant Method : C:\MSDCHEM\1\METHODS\IEPH0528.M
Quant Title :
QLast Update : Fri May 29 12:05:27 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :



E15-04836 0176

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\06-01-15\
Data File : I9542.D
Signal(s) : FID1A.CH
Acq On : 01 Jun 2015 12:20
Operator : JOLANTA
Sample : ALI_C_IAS_5296,250_PPM
Misc : ,NA,NA,1
ALS Vial : 2 Sample Multiplier: 1

Integration File: AUTOINT1.E
Quant Time: Jun 01 12:51:16 2015
Quant Method : C:\MSDCHEM\1\METHODS\IEPH0528.M
Quant Title :
QLast Update : Fri May 29 12:05:27 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	System Monitoring Compounds			
1) S	1-Chlorooctadecane	8.41	74041527	245.431 ng
Spiked Amount	100.000		Recovery =	245.43%
23) S	o-Terphenyl	6.78	92665647	240.491 ng
Spiked Amount	100.000		Recovery =	240.49%
	Target Compounds			
2) T	n-Nonane (C9)	1.02	88262113	241.062 ng
3) T	n-Decane (C10)	1.70	90566354	245.341 ng
4) T	n-Dodecane (C12)	3.04	91449153	247.000 ng
5) T	n-Tetradecane (C14)	4.15	91507976	247.845 ng
6) T	n-Hexadecane (C16)	5.12	91619976	248.280 ng
7) T	n-Octadecane (C18)	6.09	92963093	248.319 ng
8) T	n-Eicosane (C20)	7.84	91977434	244.988 ng
9) T	n-Heneicosane (C21)	8.50	91266508	241.621 ng
10) T	n-Docosane (C22)	8.95	92478016	244.094 ng
11) T	n-Tetracosane (C24)	9.63	90629382	241.010 ng
12) T	n-Hexacosane (C26)	10.16	88832935	236.706 ng
13) T	n-Octacosane (C28)	10.63	85935387	228.121 ng
14) T	n-Triacontane (C30)	11.05	82629576	219.287 ng
15) T	n-Dotriacontane (C32)	11.45	79627742	214.124 ng
16) T	n-Tetratriacontane (C34)	11.82	78203454	215.659 ng
17) T	n-Hexatriacontane (C36)	12.19	77962200	220.344 ng
18) T	n-Octatriacontane (C38)	12.55	75642736	226.197 ng
19) T	n-Tetracontane (C40)	12.96	74387406	232.945 ng
20) H	C9-C28	5.80	1104895758	2854.645 ng
21) H	C28-C40	12.00	539067077	1402.874 ng
22) H	C9-C40	7.00	1693591901	4259.443 ng

(f)=RT Delta > 1/2 Window (m)=manual int.

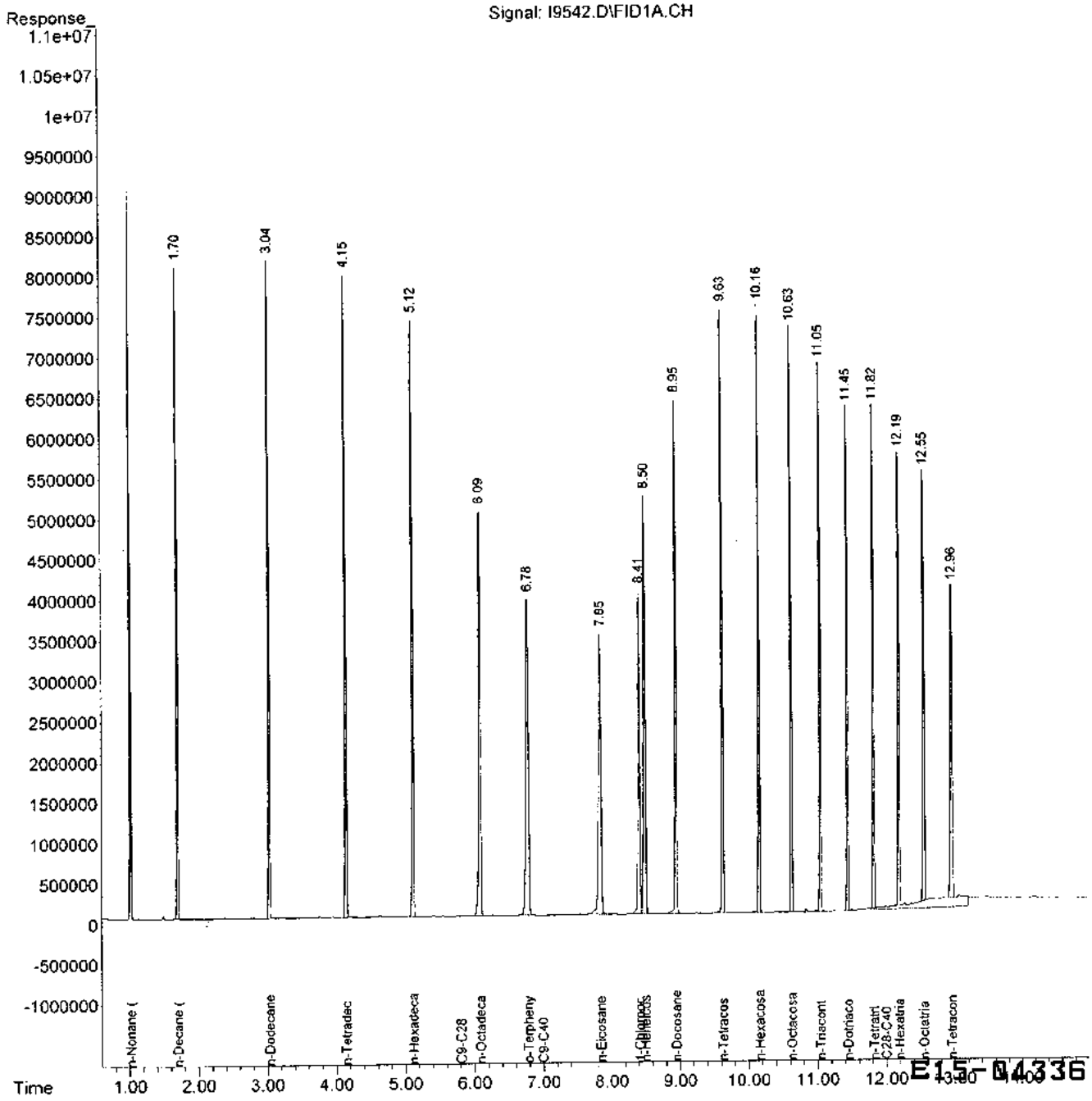
E15-04336 0177

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\06-01-15\
Data File : I9542.D
Signal(s) : FID1A.CH
Acq On : 01 Jun 2015 12:20
Operator : JOLANTA
Sample : ALI_C_IAS_5296,250_PPM
Misc : ,NA,NA,1
ALS Vial : 2 Sample Multiplier: 1

Integration File: AUTOINT1.E
Quant Time: Jun 01 12:51:16 2015
Quant Method : C:\MSDCHEM\1\METHODS\IEPH0528.M
Quant Title :
QLast Update : Fri May 29 12:05:27 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\06-01-15\
Data File : I9546.D
Signal(s) : FID1A.CH
Acq On : 01 Jun 2015 14:34
Operator : JOLANTA
Sample : ALI_C_IAS_5296,250_PPM
Misc : ,NA,NA,1
ALS Vial : 2 Sample Multiplier: 1

Integration File: AUTOINT1.E
Quant Time: Jun 01 14:58:29 2015
Quant Method : C:\MSDCHEM\1\METHODS\IEPH0528.M
Quant Title :
QLast Update : Fri May 29 12:05:27 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S 1-Chlorooctadecane	8.41	75681275	250.866 ng
Spiked Amount 100.000		Recovery =	250.87%
23) S o-Terphenyl	6.78	95488698	247.818 ng
Spiked Amount 100.000		Recovery =	247.82%
Target Compounds			
2) T n-Nonane (C9)	1.02	91378661	249.574 ng
3) T n-Decane (C10)	1.70	93668854	253.746 ng
4) T n-Dodecane (C12)	3.04	94521441	255.298 ng
5) T n-Tetradecane (C14)	4.15	94473947	255.878 ng
6) T n-Hexadecane (C16)	5.12	94531697	256.170 ng
7) T n-Octadecane (C18)	6.09	95896467	256.155 ng
8) T n-Eicosane (C20)	7.84	94574869	251.907 ng
9) T n-Heneicosane (C21)	8.49	94474966	250.115 ng
10) T n-Docosane (C22)	8.95	95044405	250.868 ng
11) T n-Tetracosane (C24)	9.63	92793730	246.766 ng
12) T n-Hexacosane (C26)	10.16	90133396	240.171 ng
13) T n-Octacosane (C28)	10.63	86399391	229.353 ng
14) T n-Triacontane (C30)	11.05	83266442	220.977 ng
15) T n-Dotriacontane (C32)	11.44	81161211	218.247 ng
16) T n-Tetratriacontane (C34)	11.82	80264365	221.342 ng
17) T n-Hexatriacontane (C36)	12.19	80451146	227.378 ng
18) T n-Octatriacontane (C38)	12.54	78311063	234.177 ng
19) T n-Tetracontane (C40)	12.95	76860046	240.688 ng
20) H C9-C28	5.80	1138045125	2940.291 ng
21) H C28-C40	12.00	553647406	1440.818 ng
22) H C9-C40	7.00	1733953492	4360.953 ng

(f)=RT Delta > 1/2 Window (m)=manual int.

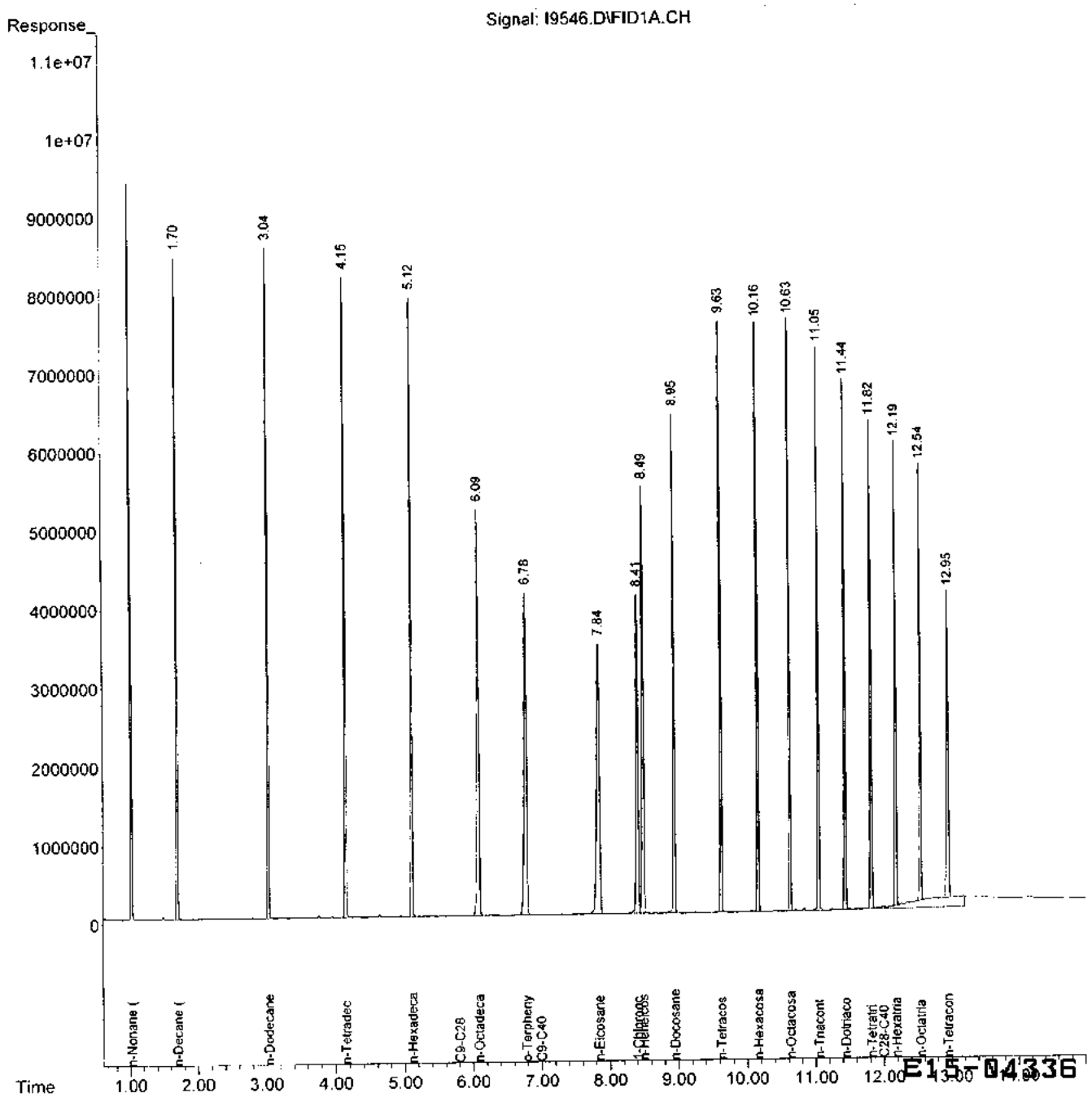
E15-04336 0179

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\06-01-15\
Data File : I9546.D
Signal(s) : FID1A.CH
Acq On : 01 Jun 2015 14:34
Operator : JOLANTA
Sample : ALI_C_IAS_5296,250_PPM
Misc : ,NA,NA,1
ALS Vial : 2 Sample Multiplier: 1

Integration File: AUTOINT1.E
Quant Time: Jun 01 14:58:29 2015
Quant Method : C:\MSDCHEM\1\METHODS\IEPH0528.M
Quant Title :
QLast Update : Fri May 29 12:05:27 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :



E15-04336 0180

EXTRACTABLE PETROLEUM HYDROCARBON
RAW QC DATA

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\05-29-15\
Data File : I9518.D
Signal(s) : FID1A.CH
Acq On : 29 May 2015 14:04
Operator : JOLANTA
Sample : NJ-EPH-C,LCSS150527-02,S,10.0g,0,1
Misc : 150527-02,05/27/15,NA,1
ALS Vial : 4 Sample Multiplier: 1

Integration File: AUTOINT1.E
Quant Time: Jun 01 10:28:58 2015
Quant Method : C:\MSDCHEM\1\METHODS\IEPH0528.M
Quant Title :
QLast Update : Fri May 29 12:05:27 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	System Monitoring Compounds			
1) S	1-Chlorooctadecane	8.40	20438996	67.751 ng
Spiked Amount	100.000		Recovery =	67.75%
23) S	o-Terphenyl	6.76	26342185	68.365 ng
Spiked Amount	100.000		Recovery =	68.36%
	Target Compounds			
2) T	n-Nonane (C9)	1.01	15917371	43.474 ng
3) T	n-Decane (C10)	1.69	17872308	48.416 ng
4) T	n-Dodecane (C12)	3.03	20657675	55.795 ng
5) T	n-Tetradecane (C14)	4.14	22336505	60.497 ng
6) T	n-Hexadecane (C16)	5.11	23149370	62.732 ng
7) T	n-Octadecane (C18)	6.08	23629966	63.119 ng
8) T	n-Eicosane (C20)	7.82	24725908	65.859 ng
9) T	n-Heneicosane (C21)	8.47	55403028	146.675 ng
10) T	n-Docosane (C22)	8.94	24893096	65.705 ng
11) T	n-Tetracosane (C24)	9.62	25600371	68.079 ng
12) T	n-Hexacosane (C26)	10.15	26552270	70.752 ng
13) T	n-Octacosane (C28)	10.62	90398167	239.968 ng
14) T	n-Triacontane (C30)	11.04	28170933	74.761 ng
15) T	n-Dotriacontane (C32)	11.44	29267139	78.701 ng
16) T	n-Tetratriacontane (C34)	11.82	28420034	78.373 ng
17) T	n-Hexatriacontane (C36)	12.19	28917499	81.729 ng
18) T	n-Octatriacontane (C38)	12.56	28317884	84.680 ng
19) T	n-Tetracontane (C40)	12.96	28162855	88.192 ng
22) H	C9-C40	7.00	1016215874	2555.818 ng

(f)=RT Delta > 1/2 Window (m)=manual int.

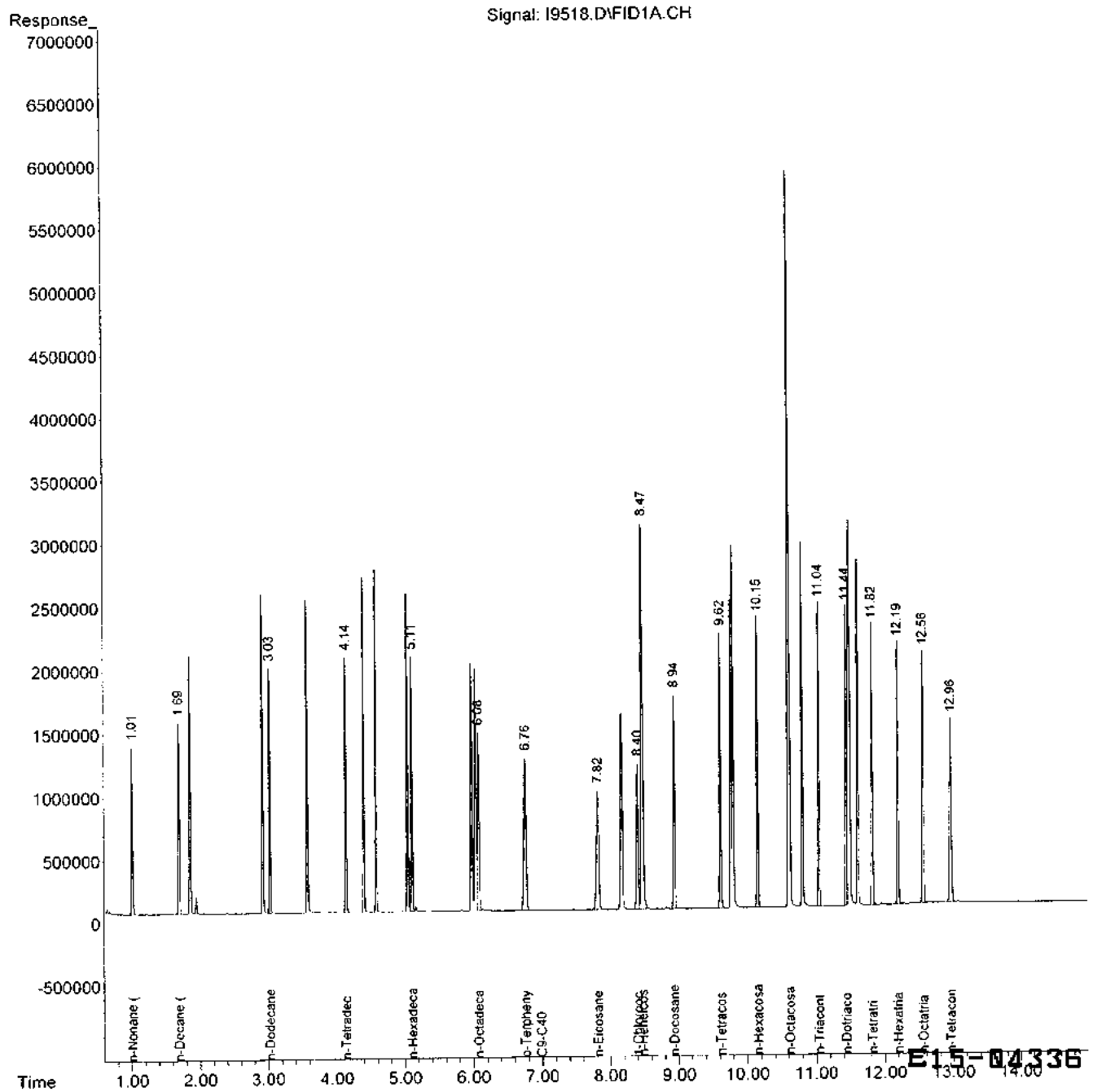
E15-04336 0182

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\05-29-15\
Data File : I9518.D
Signal(s) : FID1A.CH
Acq On : 29 May 2015 14:04
Operator : JOLANTA
Sample : NJ-EPH-C,LCSS150527-02,S,10.0g,0,1
Misc : 150527-02,05/27/15,NA,1
ALS Vial : 4 Sample Multiplier: 1

Integration File: AUTOINT1.E
Quant Time: Jun 01 10:28:58 2015
Quant Method : C:\MSDCHEM\1\METHODS\IEPH0528.M
Quant Title :
QLast Update : Fri May 29 12:05:27 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :



E15-04336 0183

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\05-29-15\
Data File : I9519.D
Signal(s) : FID1A.CH
Acq On : 29 May 2015 14:26
Operator : JOLANTA
Sample : NJ-EPH-C,LCSDS150527-02,S,10.0g,0,1
Misc : 150527-02,05/27/15,NA,1
ALS Vial : 5 Sample Multiplier: 1

Integration File: AUTOINT1.E
Quant Time: Jun 01 10:29:34 2015
Quant Method : C:\MSDCHEM\1\METHODS\IEPH0528.M
Quant Title :
QLast Update : Fri May 29 12:05:27 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	System Monitoring Compounds			
1) S	1-Chlorooctadecane	8.40	19991956	66.269 ng
Spiked Amount	100.000		Recovery =	66.27%
23) S	o-Terphenyl	6.76	25631680	66.521 ng
Spiked Amount	100.000		Recovery =	66.52%
	Target Compounds			
2) T	n-Nonane (C9)	1.01	15198306	41.510 ng
3) T	n-Decane (C10)	1.69	17204374	46.606 ng
4) T	n-Dodecane (C12)	3.03	19977252	53.958 ng
5) T	n-Tetradecane (C14)	4.14	21611566	58.534 ng
6) T	n-Hexadecane (C16)	5.11	22419862	60.755 ng
7) T	n-Octadecane (C18)	6.08	23125978	61.773 ng
8) T	n-Eicosane (C20)	7.82	24118943	64.242 ng
9) T	n-Heneicosane (C21)	8.47	54292969	143.736 ng
10) T	n-Docosane (C22)	8.94	24430586	64.484 ng
11) T	n-Tetracosane (C24)	9.62	25292280	67.260 ng
12) T	n-Hexacosane (C26)	10.16	26385232	70.307 ng
13) T	n-Octacosane (C28)	10.62	90154059	239.320 ng
14) T	n-Triacontane (C30)	11.04	28113439	74.609 ng
15) T	n-Dotriacontane (C32)	11.44	29173391	78.449 ng
16) T	n-Tetratriacontane (C34)	11.82	28271370	77.963 ng
17) T	n-Hexatriacontane (C36)	12.19	28731759	81.204 ng
18) T	n-Octatriacontane (C38)	12.55	28138379	84.143 ng
19) T	n-Tetracontane (C40)	12.95	28126796	88.079 ng
22) H	C9-C40	7.00	999605038	2514.042 ng

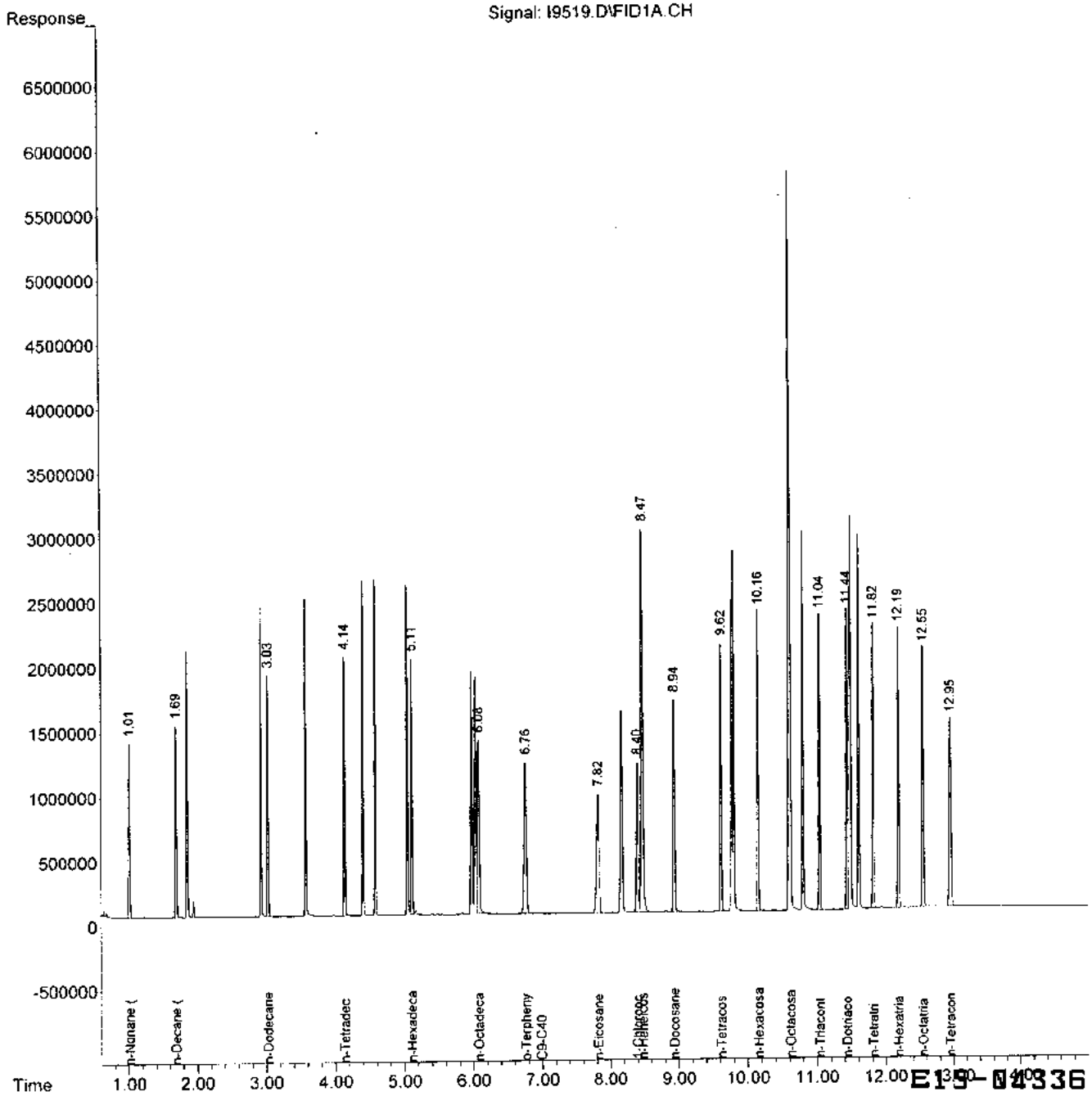
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\05-29-15\
Data File : I9519.D
Signal(s) : FID1A.CH
Acq On : 29 May 2015 14:26
Operator : JOLANTA
Sample : NJ-EPH-C,LCSDS150527-02,S,10.0g,0,1
Misc : 150527-02,05/27/15,NA,1
ALS Vial : 5 Sample Multiplier: 1

Integration File: AUTOINT1.E
Quant Time: Jun 01 10:29:34 2015
Quant Method : C:\MSDCHEM\1\METHODS\IEPH0528.M
Quant Title :
QLast Update : Fri May 29 12:05:27 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :



E15-04336 0185

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\06-01-15\
Data File : I9545.D
Signal(s) : FID1A.CH
Acq On : 01 Jun 2015 13:49
Operator : JOLANTA
Sample : NJ-EPH-C,E15-04317-001MS,S,10g,6.70,1
Misc : 150527-02,05/27/15,NA,1
ALS Vial : 25 Sample Multiplier: 1

Integration File: AUTOINT1.E
Quant Time: Jun 01 14:08:22 2015
Quant Method : C:\MSDCHEM\1\METHODS\IEPH0528.M
Quant Title :
QLast Update : Fri May 29 12:05:27 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	System Monitoring Compounds			
1) S	1-Chlorooctadecane	8.41	20320827	67.359 ng
Spiked Amount	100.000		Recovery =	67.36%
23) S	o-Terphenyl	6.76	25650756	66.570 ng
Spiked Amount	100.000		Recovery =	66.57%
	Target Compounds			
2) T	n-Nonane (C9)	1.02	15048431	41.100 ng
3) T	n-Decane (C10)	1.70	17111682	46.355 ng
4) T	n-Dodecane (C12)	3.03	19910443	53.777 ng
5) T	n-Tetradecane (C14)	4.14	21330826	57.773 ng
6) T	n-Hexadecane (C16)	5.11	22282688	60.384 ng
7) T	n-Octadecane (C18)	6.08	22910393	61.197 ng
8) T	n-Eicosane (C20)	7.83	23700608	63.128 ng
9) T	n-Heneicosane (C21)	8.48	54398933	144.017 ng
10) T	n-Docosane (C22)	8.94	24364363	64.309 ng
11) T	n-Tetracosane (C24)	9.62	25170504	66.936 ng
12) T	n-Hexacosane (C26)	10.16	25512496	67.981 ng
13) T	n-Octacosane (C28)	10.62	78988989	209.681 ng
14) T	n-Triacontane (C30)	11.05	25982926	68.955 ng
15) T	n-Dotriacontane (C32)	11.44	24969677	67.145 ng
16) T	n-Tetratriacontane (C34)	11.82	25716101	70.916 ng
17) T	n-Hexatriacontane (C36)	12.18	27786454	78.533 ng
18) T	n-Octatriacontane (C38)	12.54	22216168	66.434 ng
19) T	n-Tetracontane (C40)	12.94	22566214	70.666 ng
22) H	C9-C40	7.00	1505263188	3785.789 ng

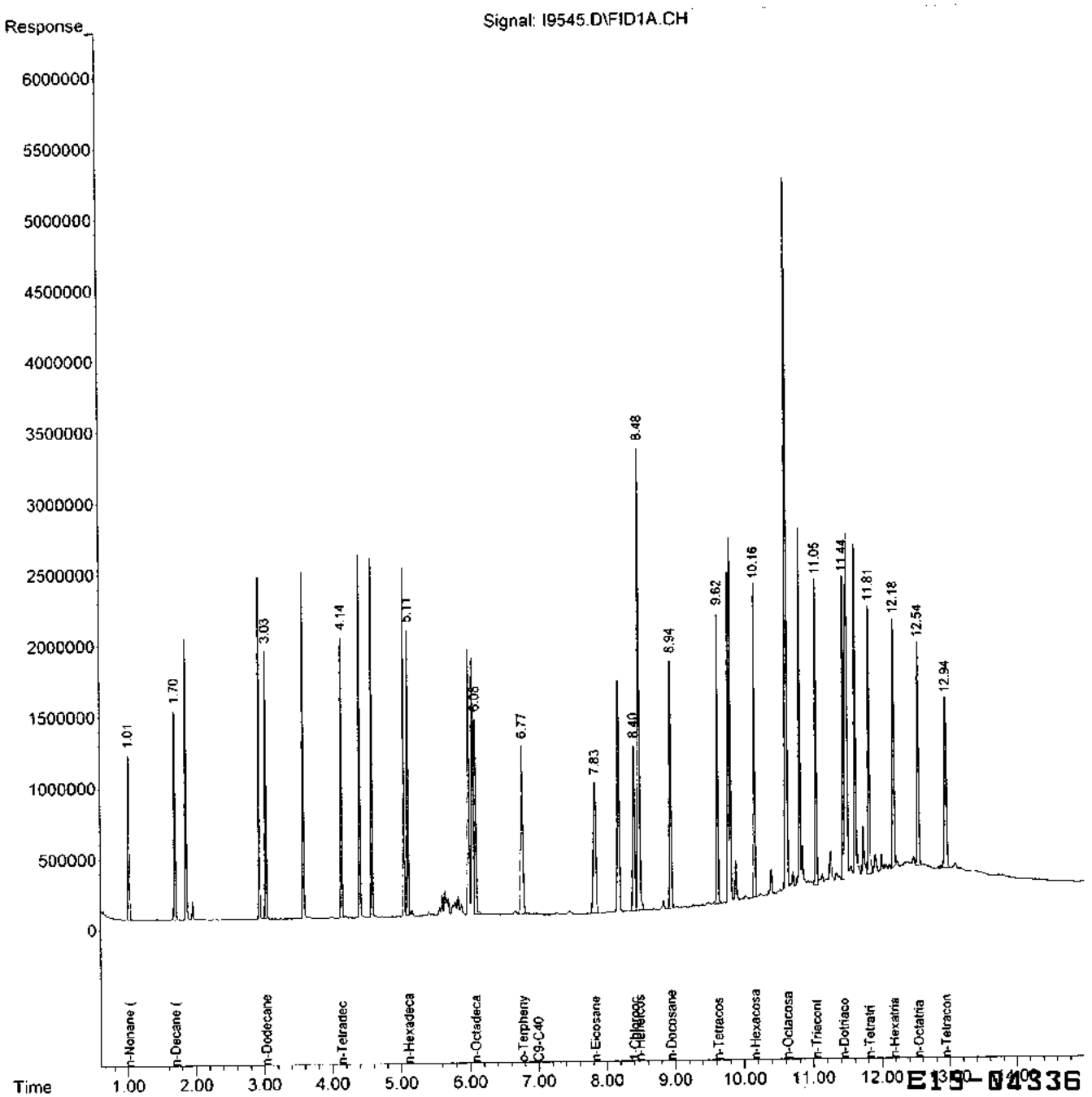
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\MSDChem\1\DATA\06-01-15\
Data File : I9545.D
Signal(s) : FID1A.CH
Acq On : 01 Jun 2015 13:49
Operator : JOLANTA
Sample : NJ-EPH-C,E15-04317-001MS,S,10g,6.70,1
Misc : 150527-02,05/27/15,NA,1
ALS Vial : 25 Sample Multiplier: 1

Integration File: AUTOINT1.E
Quant Time: Jun 01 14:08:22 2015
Quant Method : C:\MSDCHEM\1\METHODS\IEPH0528.M
Quant Title :
QLast Update : Fri May 29 12:05:27 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :



E15-04336 0187

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\05-29-15\
Data File : I9520.D
Signal(s) : FID1A.CH
Acq On : 29 May 2015 14:48
Operator : JOLANTA
Sample : PXA-1,E15-04317-001,S,10.70g,6.70,1
Misc : 150527-02,05/27/15,05/26/15,1
ALS Vial : 6 Sample Multiplier: 1

Integration File: AUTOINT1.E
Quant Time: Jun 01 10:30:24 2015
Quant Method : C:\MSDCHEM\1\METHODS\IEPH0528.M
Quant Title :
QLast Update : Fri May 29 12:05:27 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
1) S 1-Chlorooctadecane	8.40	14369567	47.632	ng	m
Spiked Amount 100.000		Recovery = 47.63%			
23) S o-Terphenyl	6.76	18855410	48.935	ng	
Spiked Amount 100.000		Recovery = 48.94%			
Target Compounds					
22) H C9-C40	7.00	564117513	1418.775	ng	

(f)=RT Delta > 1/2 Window (m)=manual int.

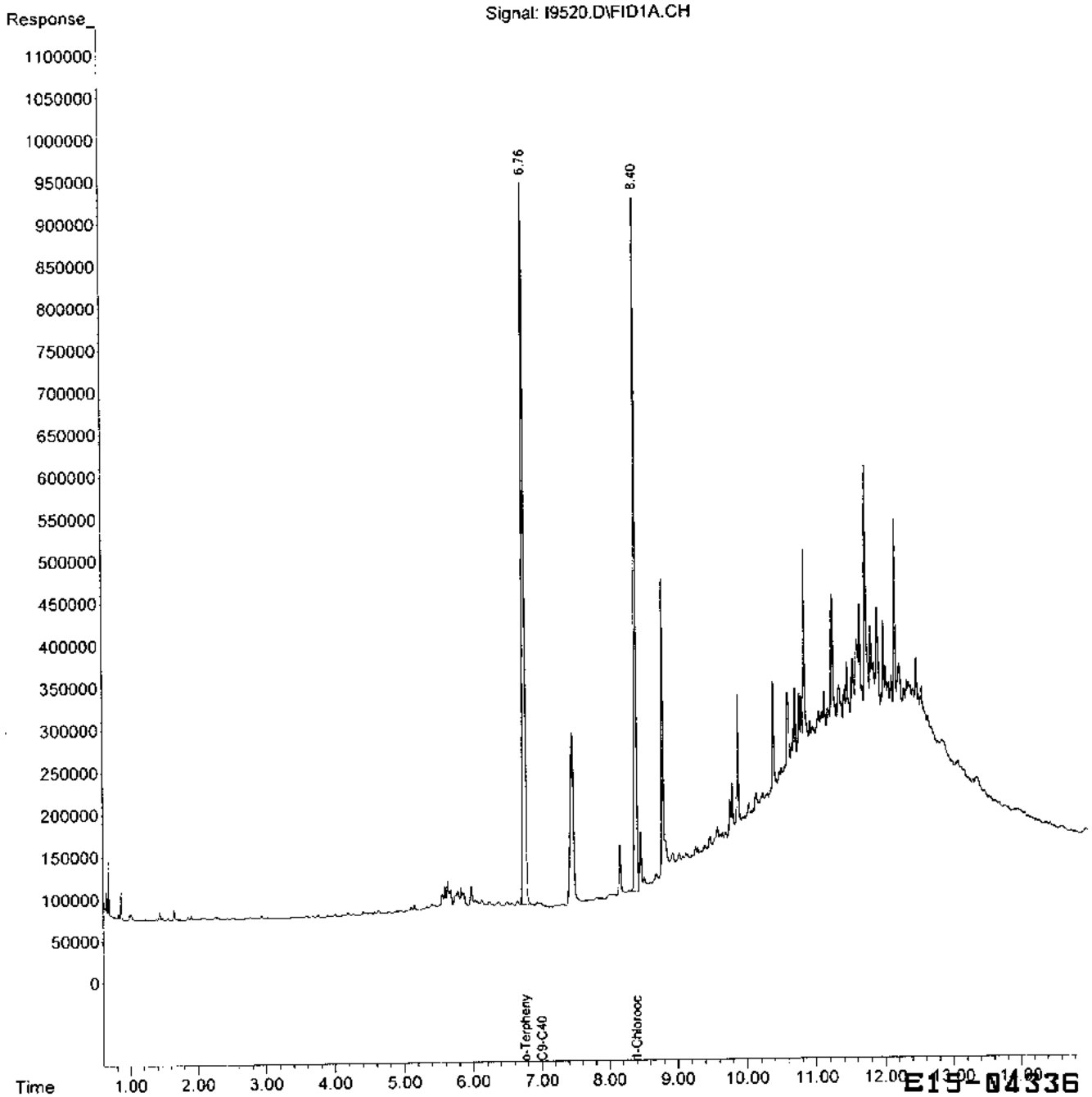
E15-04336 0188

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\05-29-15\
Data File : I9520.D
Signal(s) : FID1A.CH
Acq On : 29 May 2015 14:48
Operator : JOLANTA
Sample : PXA-1,E15-04317-001,S,10.70g,6.70,1
Misc : 150527-02,05/27/15,05/26/15,1
ALS Vial : 6 Sample Multiplier: 1

Integration File: AUTOINT1.E
Quant Time: Jun 01 10:30:24 2015
Quant Method : C:\MSDCHEM\1\METHODS\IEPH0528.M
Quant Title :
QLast Update : Fri May 29 12:05:27 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :



Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\05-29-15\
Data File : I9538.D
Signal(s) : FID1A.CH
Acq On : 29 May 2015 22:15
Operator : JOLANTA
Sample : PXA-1,E15-04317-001DUP,S,10g,6.70,1
Misc : 150527-02,05/27/15,05/26/15,1
ALS Vial : 24 Sample Multiplier: 1

Integration File: AUTOINT1.E
Quant Time: Jun 01 10:50:27 2015
Quant Method : C:\MSDCHEM\1\METHODS\IEPH0528.M
Quant Title :
QLast Update : Fri May 29 12:05:27 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
1) S 1-Chlorooctadecane	8.40	15739278	52.172	ng	m
Spiked Amount 100.000		Recovery = 52.17%			
23) S o-Terphenyl	6.76	20581027	53.413	ng	
Spiked Amount 100.000		Recovery = 53.41%			
Target Compounds					
22) H C9-C40	7.00	621734435	1563.684	ng	

(f)=RT Delta > 1/2 Window (m)=manual int.

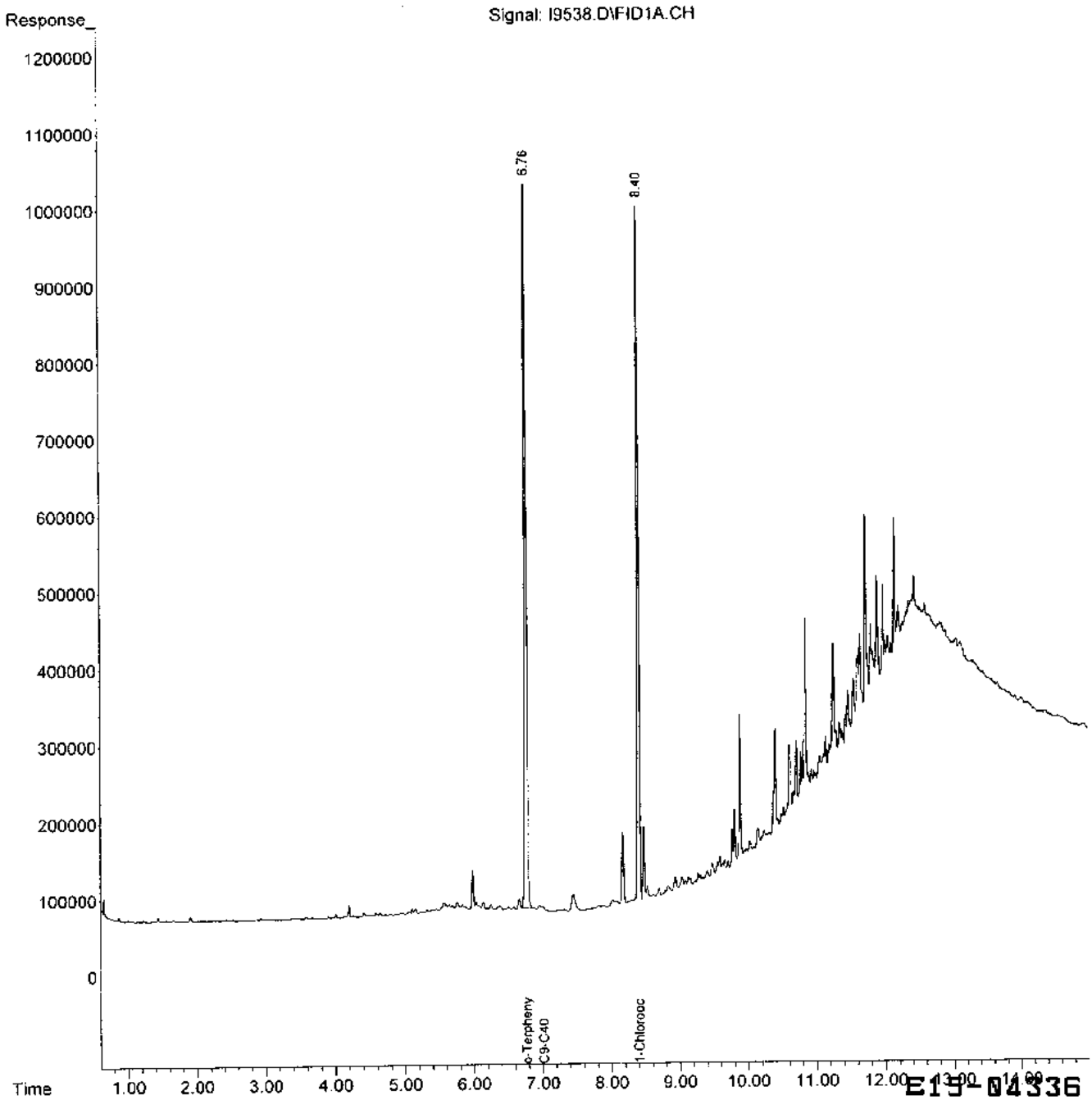
E15-04336 0190

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\05-29-15\
Data File : I9538.D
Signal(s) : FID1A.CH
Acq On : 29 May 2015 22:15
Operator : JOLANTA
Sample : PXA-1,E15-04317-001DUP,S,10g,6.70,1
Misc : 150527-02,05/27/15,05/26/15,1
ALS Vial : 24 Sample Multiplier: 1

Integration File: AUTOINT1.E
Quant Time: Jun 01 10:50:27 2015
Quant Method : C:\MSDCHEM\1\METHODS\IEPH0528.M
Quant Title :
QLast Update : Fri May 29 12:05:27 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :



E15-04336 0191

INTEGRATED ANALYTICAL LABORATORIES

NJ-EPH-C40

Lab ID: BLKS150527-02
Client ID: NJ-EPH-C
Date Received: NA
Date Extracted: 05/27/2015
Date Analyzed: 05/29/2015
Data file: I9517.D

GC Column: RTX-5
Sample wt/vol: 10.0g
Matrix-Units: Soil-mg/Kg
Dilution Factor: 1
% Moisture: NA

Compound	Concentration	Q	RL	MDL
C9-C40	ND		50.0	20.0

D --- Dilution Performed
J --- Value Less than RL & greater than MDL
E --- Exceeds upper level of Calibration curve

B --- Compound detected in Blank
C --- Common laboratory contamination

E15-04336 0192

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\05-29-15\
Data File : I9517.D
Signal(s) : FID1A.CH
Acq On : 29 May 2015 13:41
Operator : JOLANTA
Sample : NJ-EPH-C,BLKS150527-02,S,10.0g,0,1
Misc : 150527-02,05/27/15,NA,1
ALS Vial : 3 Sample Multiplier: 1

Integration File: AUTOINT1.E
Quant Time: Jun 01 10:28:25 2015
Quant Method : C:\MSDCHEM\1\METHODS\IEPH0528.M
Quant Title :
QLast Update : Fri May 29 12:05:27 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :

Compound	R.T.	Response	Conc	Units	
System Monitoring Compounds					
1) S 1-Chlorooctadecane	8.40	15315525	50.767	ng	m
Spiked Amount 100.000		Recovery = 50.77%			
23) S o-Terphenyl	6.76	20870623	54.165	ng	m
Spiked Amount 100.000		Recovery = 54.16%			
Target Compounds					

(f)=RT Delta > 1/2 Window (m)=manual int.

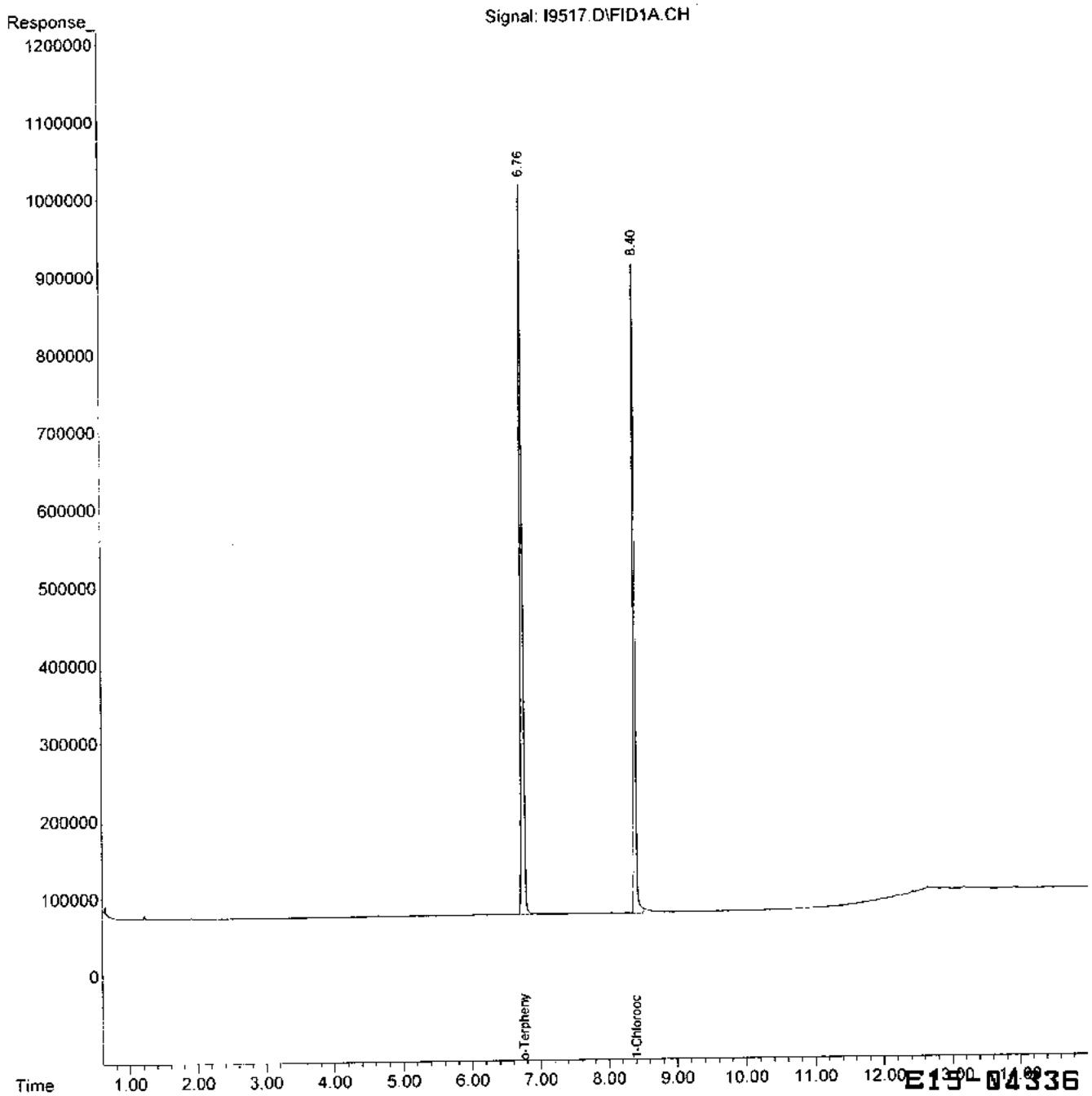
E15-04336 0193

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\05-29-15\
Data File : I9517.D
Signal(s) : FID1A.CH
Acq On : 29 May 2015 13:41
Operator : JOLANTA
Sample : NJ-EPH-C,BLKS150527-02,S,10.0g,0,1
Misc : 150527-02,05/27/15,NA,1
ALS Vial : 3 Sample Multiplier: 1

Integration File: AUTOINT1.E
Quant Time: Jun 01 10:28:25 2015
Quant Method : C:\MSDCHEM\1\METHODS\IEPH0528.M
Quant Title :
QLast Update : Fri May 29 12:05:27 2015
Response via : Initial Calibration
Integrator: ChemStation 6890 Scale Mode: Large solvent peaks clipped

Volume Inj. :
Signal Phase :
Signal Info :



GC Extraction

Integrated Analytical Laboratories, LLC

NJ-EPH-C40 (Soil)

Extraction Date/Time: 05/27/2015 08:46

Batch ID: **150527-02**

Tray:

QC Sample_ID	Test	Initial (g/ml)	Final (ml)	Surrogate (ul)	Color	Spk1 (ul)	Spk2 (ul)	Comments
BLKS150527-02	NJ-EPH-C40	10	1	10	1			
LCSS150527-02	NJ-EPH-C40	10	1	10	2	100	200	
LCSDS150527-02	NJ-EPH-C40	10	1	10	2	100	200	
04317-001MS	NJ-EPH-C40	10	1	10	4	100	200	NH
04317-001DUP	NJ-EPH-C40	10	1	10	4			NH

Standard Info	Surrogate IAS #
Solvent	76-10
Surrogate	5293
SPK 1	5173
SPK 2	5172

No	Sample_ID	Test	Initial (g/ml)	Final (ml)	Surrogate (ul)	Color	Moist	Comments	QC 1	QC 2
1	04317-001	NJ-EPH-C40	10.70	1	10	4	6.70	NH	04317-001MS / 150527-02	
2	04317-002	NJ-EPH-C40	10.18	1	10	5	11.1	NH	04317-001MS / 150527-02	
3	04317-003	NJ-EPH-C40	10.67	1	10	5	8.30	NH	04317-001MS / 150527-02	
4	04317-004	NJ-EPH-C40	10.19	1	10	5	10.5	NH	04317-001MS / 150527-02	
5	04317-005	NJ-EPH-C40	10.11	1	10	5	11.0	NH	04317-001MS / 150527-02	
6	04317-006	NJ-EPH-C40	10.02	1	10	5	8.40	NH	04317-001MS / 150527-02	
7	04317-007	NJ-EPH-C40	10.12	1	10	5	7.60	NH	04317-001MS / 150527-02	
8	04317-008	NJ-EPH-C40	10.15	1	10	4	7.60	NH	04317-001MS / 150527-02	
9	04317-009	NJ-EPH-C40	10.79	1	10	5	12.7	NH	04317-001MS / 150527-02	
10	04317-010	NJ-EPH-C40	10.11	1	10	5	12.9	NH	04317-001MS / 150527-02	
11	04317-011	NJ-EPH-C40	10.78	1	10	5	6.00	NH	04317-001MS / 150527-02	
12	04317-012	NJ-EPH-C40	10.37	1	10	5	7.90	NH	04317-001MS / 150527-02	
13	04317-013	NJ-EPH-C40	10.25	1	10	5	7.00		04317-001MS / 150527-02	
14	04317-014	NJ-EPH-C40	10.56	1	10	5	10.4		04317-001MS / 150527-02	
15	04317-015	NJ-EPH-C40	10.50	1	10	5	5.70		04317-001MS / 150527-02	
16	04317-016	NJ-EPH-C40	10.78	1	10	5	6.00		04317-001MS / 150527-02	
17	04319-001	NJ-EPH-C40	10.56	1	10	5	8.60		04317-001MS / 150527-02	
18	04336-001	NJ-EPH-C40	10.0	1	10	1	0		04317-001MS / 150527-02	
19										
20										

	By	Date/Time
Batched	Elma	05/27/2015 08:48
Weighed	Kevin - Prov	05/27/2015 12:01
Surrogated	Elma	05/27/2015 12:02
Filtered	Jackeline - Prov	05/27/2015 18:15
Transferred	Jackeline - Prov	05/27/2015 18:15
Fractionated		

Comments:

13-30

*V/C=Vap/Cell, *F=Funnel

Color: 1=Clear 2=Light Yellow 3=Yellow 4=Brown 5=Black

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\05-28-15\
Data File : Q2493.D
Signal(s) : FID1A.ch
Acq On : 29 May 15 8:31 am
Operator : BM
Sample : 15-070,E15-04336-001,Xs,10.0g,0,1
Misc : 150527-02,05/27/15,05/27/15,1
ALS Vial : 30 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: May 29 08:55:27 2015
Quant Method : C:\msdchem\1\METHODS\Q1AL0502.M
Quant Title :
QLast Update : Mon May 04 08:31:20 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :

	Compound	R.T.	Response	Conc Units
	System Monitoring Compounds			
1) S	1-Chlorooctadecane	4.049	19146422	64.647 ng
Spiked Amount	100.000		Recovery =	64.65%
5) S	o-Terphenyl	3.700	25294875	68.159 ng
Spiked Amount	100.000		Recovery =	68.16%
	Target Compounds			
2) H	C9-C28	3.150	23964897	63.933 ng
3) H	C28-C40	6.750	44350458	120.104 ng
4) H	C9-C40	4.400	149642175	394.478 ng

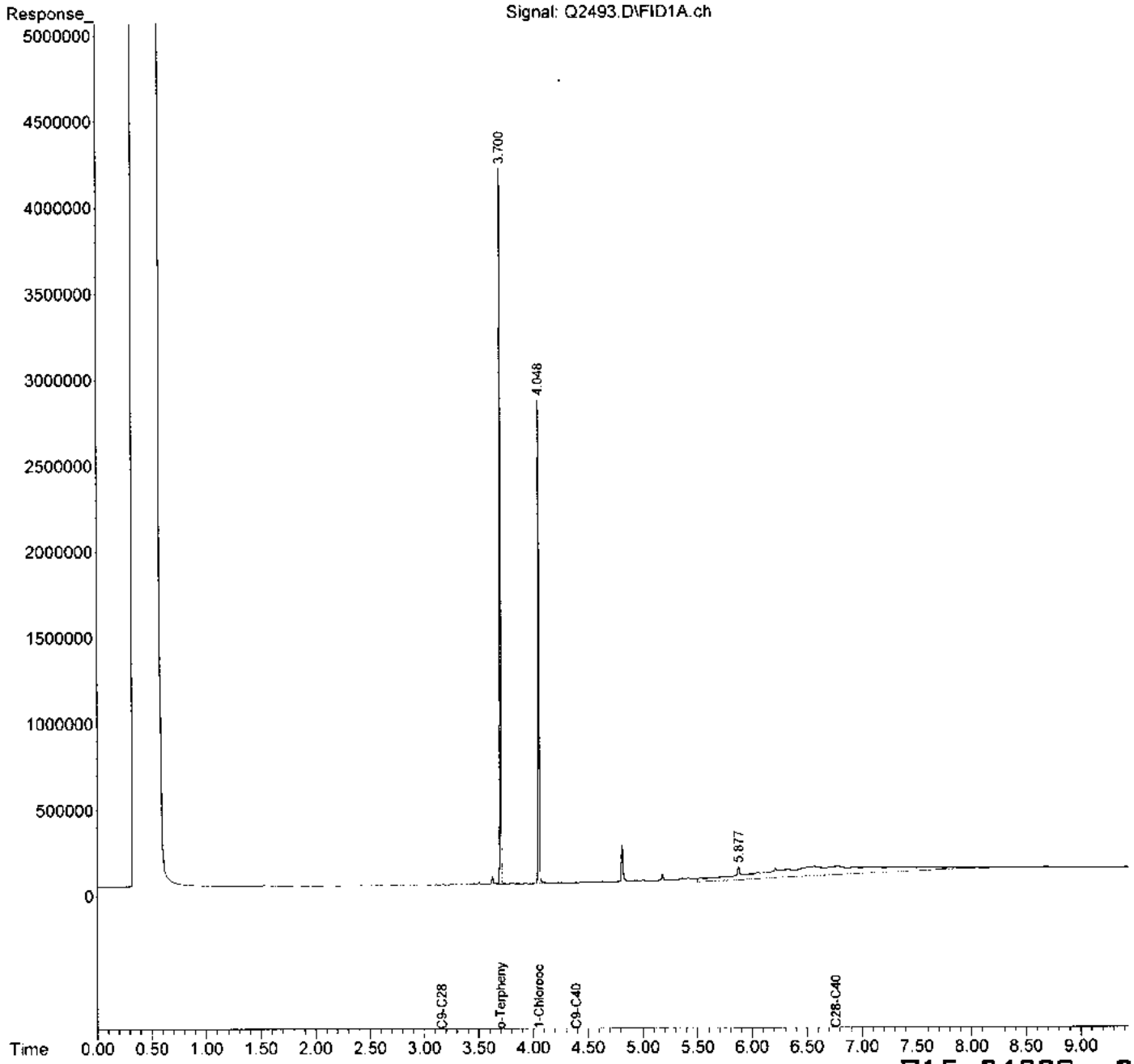
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\05-28-15\
Data File : Q2493.D
Signal(s) : FID1A.ch
Acq On : 29 May 15 8:31 am
Operator : BM
Sample : 15-070,E15-04336-001,Xs,10.0g,0,1
Misc : 150527-02,05/27/15,05/27/15,1
ALS Vial : 30 Sample Multiplier: 1

Integration File: autoint1.e
Quant Time: May 29 08:55:27 2015
Quant Method : C:\msdchem\1\METHODS\Q1AL0502.M
Quant Title :
QLast Update : Mon May 04 08:31:20 2015
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal Phase :
Signal Info :



METALS

METALS QC SUMMARY

METALS QUALITY CONTROL

INITIAL & CONTINUING CALIBRATION VERIFICATION

Batch (Page) #: 265
SDG #: E15-04337, E15-03844, E15-04287, E15-04336, E15-04346, E15-04367, E15-04353

Matrix: Soil Method: 6020A Units: ppb (ug/L)

			5/29/15 14:11		5/29/15 14:54		5/29/15 15:42		5/29/15 16:29	
ANALYTE	INST. MDL	ICV & CCV TRUE	ICV FOUND	ICV % R	CCV FOUND	CCV % R	CCV FOUND	CCV % R	CCV FOUND	CCV % R
Aluminum	0.500	25.0	27.3	109	24.8	99.2	25.4	102	23.4	93.6
Antimony	0.250	25.0	23.7	94.8	22.8	91.2	24.0	96.0	23.4	93.6
Arsenic	0.250	25.0	25.1	100	24.5	98.0	24.3	97.2	24.4	97.6
Barium	0.500	25.0	23.7	94.8	23.5	94.0	24.6	98.4	24.3	97.2
Beryllium	0.200	25.0	23.5	94.0	27.4	110	24.9	99.6	24.4	97.6
Cadmium	0.125	25.0	24.2	96.8	24.1	96.4	25.0	100	24.4	97.6
Calcium	5.00	250	260	104	248	99.2	247	98.8	247	98.8
Chromium	0.500	25.0	25.2	101	24.9	99.6	24.3	97.2	24.2	96.8
Cobalt	0.500	25.0	24.4	97.6	23.7	94.8	23.5	94.0	23.3	93.2
Copper	0.500	25.0	25.0	100	24.3	97.2	23.9	95.6	23.6	94.4
Iron	5.00	250	266	106	271	108	271	108	263	105
Lead	0.500	25.0	24.1	96.4	23.5	94.0	25.4	102	24.9	99.6
Magnesium	5.00	250	249	99.6	243	97.2	242	96.8	241	96.4
Manganese	0.250	25.0	25.2	101	24.9	99.6	24.7	98.8	24.7	98.8
Mercury	0.120	5.00	5.19	104	5.17	103				
Nickel	0.500	25.0	25.3	101	24.2	96.8	23.7	94.8	23.6	94.4
Potassium	5.00	250	252	101	251	100	254	102	251	100
Selenium	0.500	25.0	24.6	98.4	24.2	96.8	23.8	95.2	25.1	100
Silver	0.125	25.0	23.3	93.2	25.4	102	27.2	109	26.8	107
Sodium	5.00	250	247	98.8	241	96.4	239	95.6	237	94.8
Thallium	0.125	25.0	22.7	90.8	25.0	100	27.2	109	27.2	109
Vanadium	0.500	25.0	25.5	102	25.0	100	24.6	98.4	24.4	97.6
Zinc	0.500	25.0	25.3	101	24.7	98.8	24.6	98.4	24.3	97.2

(1) Control Limits: Mercury 80-120; Other Metals 90-110

METALS QUALITY CONTROL

INITIAL & CONTINUING CALIBRATION VERIFICATION

Batch (Page) #: 265
SDG #: E15-04337, E15-03844, E15-04287, E15-04336, E15-04346, E15-04367, E15-04353

Matrix: Soil Method: 6020A Units: ppb (ug/L)

			5/29/15 18:34		5/29/15 19:27		5/29/15 20:02			
ANALYTE	INST. MDL	ICV & CCV TRUE	CCV FOUND	CCV % R	CCV FOUND	CCV % R	CCV FOUND	CCV % R	FOUND	% R
Aluminum	0.500	25.0	26.1	104	26.6	106	27.0	108		
Antimony	0.250	25.0	24.1	96.4	24.4	97.6	25.8	103		
Arsenic	0.250	25.0	23.6	94.4	25.1	100	24.9	99.6		
Barium	0.500	25.0	24.7	98.8	25.1	100	26.4	106		
Beryllium	0.200	25.0	25.7	103	25.7	103	26.7	107		
Cadmium	0.125	25.0	24.9	99.6	25.5	102	26.3	105		
Calcium	5.00	250	234	93.6	248	99.2	246	98.4		
Chromium	0.500	25.0	24.0	96.0	25.0	100	25.1	100		
Cobalt	0.500	25.0	24.0	96.0	25.2	101	25.1	100		
Copper	0.500	25.0	23.9	95.6	25.3	101	24.8	99.2		
Iron	5.00	250	246	98.4	257	103	252	101		
Lead	0.500	25.0	23.7	94.8	24.5	98.0	25.2	101		
Magnesium	5.00	250	244	97.6	246	98.4	242	96.8		
Manganese	0.250	25.0	23.8	95.2	24.9	99.6	24.7	98.8		
Nickel	0.500	25.0	23.8	95.2	25.0	100	24.6	98.4		
Potassium	5.00	250	236	94.4	241	96.4	246	98.4		
Selenium	0.500	25.0	22.8	91.2	23.6	94.4	25.5	102		
Silver	0.125	25.0	24.1	96.4	24.6	98.4	25.5	102		
Sodium	5.00	250	242	96.8	242	96.8	249	99.6		
Thallium	0.125	25.0	23.2	92.8	23.3	93.2	24.0	96.0		
Vanadium	0.500	25.0	24.3	97.2	25.2	101	25.6	102		
Zinc	0.500	25.0	24.1	96.4	25.2	101	24.8	99.2		

(1) Control Limits: Mercury 80-120; Other Metals 90-110

METALS QUALITY CONTROL

INITIAL & CONTINUING CALIBRATION BLANKS VERIFICATION

Batch (Page) #: 265
SDG #: E15-04337, E15-03844, E15-04287, E15-04336, E15-04346, E15-04367, E15-04353

Matrix: Soil Method: 6020A Concentration/Units: ppm (mg/kg)

		5/29/15 14:19	5/29/15 14:58	5/29/15 15:46	5/29/15 16:33	5/29/15 18:38	5/29/15 19:31
ANALYTE	INST. MDL	ICB	CCB	CCB	CCB	CCB	CCB
Aluminum	0.0005	ND	ND	ND	ND	ND	ND
Antimony	0.00025	ND	ND	ND	ND	ND	ND
Arsenic	0.00025	ND	ND	ND	ND	ND	ND
Barium	0.0005	ND	ND	ND	ND	ND	ND
Beryllium	0.0002	ND	ND	ND	ND	ND	ND
Cadmium	0.000125	ND	ND	ND	ND	ND	ND
Calcium	0.005	ND	ND	ND	ND	ND	ND
Chromium	0.0005	ND	ND	ND	ND	ND	ND
Cobalt	0.0005	ND	ND	ND	ND	ND	ND
Copper	0.0005	ND	ND	ND	ND	ND	ND
Iron	0.005	ND	ND	ND	ND	ND	ND
Lead	0.0005	ND	ND	ND	ND	ND	ND
Magnesium	0.005	ND	ND	ND	ND	ND	ND
Manganese	0.00025	ND	ND	ND	ND	ND	ND
Mercury	0.00012	ND	ND				
Nickel	0.0005	ND	ND	ND	ND	ND	ND
Potassium	0.005	ND	ND	ND	ND	ND	ND
Selenium	0.0005	ND	ND	ND	ND	ND	ND
Silver	0.000125	ND	ND	ND	ND	ND	ND
Sodium	0.005	ND	ND	ND	ND	ND	ND
Thallium	0.000125	ND	ND	ND	ND	ND	ND
Vanadium	0.0005	ND	ND	ND	ND	ND	ND
Zinc	0.0005	ND	ND	ND	ND	ND	ND

INTEGRATED ANALYTICAL LABORATORIES, LLC.

METALS QUALITY CONTROL

INITIAL & CONTINUING CALIBRATION BLANKS VERIFICATION

Batch (Page) #: 265

SDG #: E15-04337, E15-03844, E15-04287, E15-04336, E15-04346, E15-04367, E15-04353

Matrix: Soil Method: 6020A Concentration/Units: ppm (mg/kg)

5/29/15 20:06

ANALYTE	INST. MDL	CCB					
Aluminum	0.0005	ND					
Antimony	0.00025	ND					
Arsenic	0.00025	ND					
Barium	0.0005	ND					
Beryllium	0.0002	ND					
Cadmium	0.000125	ND					
Calcium	0.005	ND					
Chromium	0.0005	ND					
Cobalt	0.0005	ND					
Copper	0.0005	ND					
Iron	0.005	ND					
Lead	0.0005	ND					
Magnesium	0.005	ND					
Manganese	0.00025	ND					
Mercury	0.00012	ND					
Nickel	0.0005	ND					
Potassium	0.005	ND					
Selenium	0.0005	ND					
Silver	0.000125	ND					
Sodium	0.005	ND					
Thallium	0.000125	ND					
Vanadium	0.0005	ND					
Zinc	0.0005	ND					

METALS QUALITY CONTROL

BLANK 1 RESULTS SUMMARY

05/29/2015 03:06 PM

Batch (Page) #: 265
Associated Lab Case for Blank 1: E15-03844, E15-04287, E15-04336, E15-04337, E15-04346, E15-04353, E15-04367

Matrix: Soil Unit: ppm (mg/kg) Method: 6020A

ANALYTE	SAMPLE MDL	REAGENT BLANK BLKS150528-01
Aluminum	0.500	ND
Antimony	0.250	ND
Arsenic	0.250	ND
Barium	0.500	ND
Beryllium	0.200	ND
Cadmium	0.125	ND
Calcium	5.00	ND
Chromium	0.500	ND
Cobalt	0.500	ND
Copper	0.500	ND
Iron	5.00	ND
Lead	0.500	ND
Magnesium	5.00	ND
Manganese	0.250	ND
Mercury	0.006	ND
Nickel	0.500	ND
Potassium	5.00	ND
Selenium	0.500	ND
Silver	0.125	ND
Sodium	5.00	ND
Thallium	0.125	ND
Vanadium	0.500	ND
Zinc	0.500	ND

Associated Sample for Blank 1:
03844-013; 04287-001; 04336-001; 04337-003,005
04337-009; 04346-001; 04353-010~011; 04367-001
04367-002~011

METALS QUALITY CONTROL

ICP-MS ICSAB RESULTS SUMMARY

Instrument: Agilent7700
Batch (Page) #: 265
SDG #: E15-04337, E15-03844, E15-04287, E15-04336, E15-04346, E15-04367, E15-04353

Matrix: Aqueous Concentration/Units: ppb (µg/L)

ANALYTE	TRUE		INITIAL FOUND			CONTROL
	SOL A	SOL B	SOL A	SOL A+B	%R	LIMIT %R
Chlorine	1000000	-	-	-	-	NA
Carbon	200000	-	-	-	-	NA
Aluminum	100000	-	79000	84600	84.6	NA
Calcium	100000	-	84600	91200	91.2	NA
Iron	100000	-	84900	90400	90.4	NA
Potassium	100000	-	81800	88600	88.6	NA
Magnesium	100000	-	79400	85200	85.2	NA
Sodium	100000	-	81800	88100	88.1	NA
Phosphorus	100000	-	-	-	-	NA
Sulfur	100000	-	-	-	-	NA
Molybdenum	2000	-	2120	2120	106	NA
Titanium	2000	-	874	944	47.2	NA
Silver	-	20.0	-	19.9	99.5	80-120
Arsenic	-	20.0	-	20.3	102	80-120
Cadmium	-	20.0	-	19.4	97.0	80-120
Cobalt	-	20.0	-	19.0	95.0	80-120
Chromium	-	20.0	-	19.6	98.0	80-120
Copper	-	20.0	-	18.5	92.5	80-120
Manganese	-	20.0	-	23.9	120	80-120
Nickel	-	20.0	-	18.8	94.0	80-120
Zinc	-	20.0	-	18.0	90.0	80-120

%R = Percent Recovery

METALS QUALITY CONTROL

LABORATORY CONTROL SAMPLE

Batch (Page) #: 265
SDG #: E15-03844, E15-04287, E15-04336, E15-04337, E15-04346, E15-04353, E15-04367

Matrix: Soil Unit: ppm (mg/kg)

ANALYTE	LCSS150528-01			LCSS150528-02		
	TRUE	FOUND	%R(1)	TRUE	FOUND	%R(1)
Aluminum	200	200	100			
Antimony	40.0	35.9	89.8			
Arsenic	40.0	38.9	97.3	40.0	39.2	98.0
Barium	40.0	36.9	92.3			
Beryllium	40.0	42.1	105			
Cadmium	40.0	38.3	95.8			
Calcium	200	199	99.5			
Chromium	40.0	39.6	99.0			
Cobalt	40.0	38.5	96.3			
Copper	40.0	38.8	97.0			
Iron	200	215	108			
Lead	40.0	39.5	98.8			
Magnesium	200	195	97.5			
Manganese	40.0	40.2	101			
Mercury	0.500	0.504	101			
Nickel	40.0	39.2	98.0			
Potassium	200	200	100			
Selenium	40.0	38.9	97.3			
Silver	40.0	35.0	87.5			
Sodium	200	194	97.0			
Thallium	40.0	36.6	91.5			
Vanadium	40.0	40.0	100			
Zinc	40.0	37.4	93.5			

(1) Control Limits % Recovery = 80-120%

LCSS150528-01 5/29/15 15:10
03844-013; 04287-001; 04336-001; 04337-003,005
04337-009; 04346-001; 04353-010~011; 04367-001
04367-002~011

LCSS150528-02 5/29/15 18:25
04353-001~009

METALS QUALITY CONTROL

LOW LEVEL INITIAL CALIBRATION VERIFICATION

Batch (Page) #: 265
SDG #: E15-04337, E15-03844, E15-04287, E15-04336, E15-04346, E15-04367, E15-04353

Matrix: Soil Method: 6020A Units: ppb (ug/L)

5/29/15 14:15

ANALYTE	INST. MDL	LLICV TRUE	LLICV FOUND	LLICV % R
Aluminum	0.500	0.500	0.505	101
Antimony	0.250	0.500	0.529	106
Arsenic	0.250	0.500	0.518	104
Barium	0.500	0.500	0.520	104
Beryllium	0.200	0.500	0.467	93.4
Cadmium	0.125	0.500	0.521	104
Calcium	5.00	5.00	4.78	95.6
Chromium	0.500	0.500	0.444	88.8
Cobalt	0.500	0.500	0.490	98.0
Copper	0.500	0.500	0.544	109
Iron	5.00	5.00	6.45	129
Lead	0.500	0.500	0.512	102
Magnesium	5.00	5.00	4.84	96.8
Manganese	0.250	0.500	0.493	98.6
Nickel	0.500	0.500	0.510	102
Potassium	5.00	5.00	3.65	73.0
Selenium	0.500	0.500	0.410	82.0
Silver	0.125	0.500	0.504	101
Sodium	5.00	5.00	4.71	94.2
Thallium	0.125	0.500	0.523	105
Vanadium	0.500	0.500	0.495	99.0
Zinc	0.500	0.500	0.541	108

(1) Control Limits: 70-130

METALS QUALITY CONTROL
SPIKE SAMPLE RECOVERY

Batch (Page) #: 265
SDG #: E15-03844, E15-04287, E15-04336, E15-04337, E15-04346, E15-04353, E15-04367

Matrix: Soil Concentration/Units: ppm (mg/kg)

ANALYTE	5/29/15 14:50 SSR1	5/29/15 14:39 SR1	%R1	SA1	5/29/15 18:51 SSR2	5/29/15 18:30 SR2	%R2	SA2	CONTROL LIMIT %R
Aluminum	31100	33100	NC	236					75-125
Antimony	44.0	ND	93.2	47.2					75-125
Arsenic	42.5	4.11	81.3	47.2	55.2	12.7	94.0	45.2	75-125
Barium	171	132	82.6	47.2					75-125
Beryllium	43.5	1.20	89.6	47.2					75-125
Cadmium	43.1	ND	91.3	47.2					75-125
Calcium	1170	1050	NC	236					75-125
Chromium	59.7	21.3	81.4	47.2					75-125
Cobalt	48.5	10.8	79.9	47.2					75-125
Copper	61.0	24.4	77.5	47.2					75-125
Iron	44100	47600	NC	236					75-125
Lead	54.6	7.87	99.0	47.2					75-125
Magnesium	2560	2570	NC	236					75-125
Manganese	257	234	NC	47.2					75-125
Mercury	0.651	0.042	103	0.590					75-125
Nickel	50.2	12.0	80.9	47.2					75-125
Potassium	997	849	NC	236					75-125
Selenium	41.8	3.23	81.7	47.2					75-125
Silver	44.1	ND	93.4	47.2					75-125
Sodium	416	238	75.4	236					75-125
Thallium	44.4	ND	94.1	47.2					75-125
Vanadium	71.3	33.5	80.1	47.2					75-125
Zinc	95.9	53.6	89.6	47.2					75-125

SSR = Spike Sample Result
SR = Sample Result
SA = Spike Added
%R = Percent Recovery
NC = Non-calculable % R; Spike sample concentration > 4 x Spike Concentration.

QC Sample 1: E15-04337-003
% Solids: 84.8
QC Sample 1 for following samples:
03844-013; 04287-001; 04336-001; 04337-003,005
04337-009; 04346-001; 04353-010~011; 04367-001
04367-002~011

QC Sample 2: E15-04353-002
% Solids: 88.4
QC Sample 2 for following samples:
04353-001~009

METALS QUALITY CONTROL
DUPLICATE SAMPLE RECOVERY

Batch (Page) #: 265
SDG #: E15-03844, E15-04287, E15-04336, E15-04337, E15-04346, E15-04353, E15-04367

Matrix: Soil Concentration/Units: ppm (mg/kg)

ANALYTE	CONTROL LIMIT 1	5/29/15 14:39 S1	5/29/15 14:43 D1	RPD1	CONTROL LIMIT 2	5/29/15 18:30 S2	5/29/15 18:43 D2	RPD2
Aluminum	20	33100	33600	1.50				
Antimony	NA	ND	ND	NC				
Arsenic	20	4.11	4.08	0.733	20	12.7	12.6	0.791
Barium	20	132	131	0.760				
Beryllium	20	1.20	1.18	1.68				
Cadmium	NA	ND	ND	NC				
Calcium	20	1050	1040	0.957				
Chromium	20	21.3	21.4	0.468				
Cobalt	20	10.8	10.8	0				
Copper	20	24.4	24.3	0.411				
Iron	20	47600	48100	1.04				
Lead	20	7.87	8.05	2.26				
Magnesium	20	2570	2550	0.781				
Manganese	20	234	236	0.851				
Mercury	20	0.042	0.043	2.35				
Nickel	20	12.0	11.8	1.68				
Potassium	20	849	847	0.236				
Selenium	20	3.23	3.32	2.75				
Silver	NA	ND	ND	NC				
Sodium	20	238	236	0.844				
Thallium	NA	ND	ND	NC				
Vanadium	20	33.5	33.4	0.299				
Zinc	20	53.6	53.6	0				

S1 = Sample 1
D1 = Duplicate 1
NA = Not Applicable
NC = Non-calculable RPD due to result (s) less than the detection limit.

S2 = Sample 2
D2 = Duplicate 2

QC Sample 1: E15-04337-003
% Solids: 84.8
QC Sample 1 for following samples:
03844-013; 04287-001; 04336-001; 04337-003,005
04337-009; 04346-001; 04353-010~011; 04367-001
04367-002~011

QC Sample 2: E15-04353-002
% Solids: 88.4
QC Sample 2 for following samples:
04353-001~009

METALS QUALITY CONTROL
SERIAL DILUTIONS & POST SPIKES 1

Batch (Page) #: 265
SDG #: E15-03844, E15-04287, E15-04336, E15-04337, E15-04346, E15-04353, E15-04367

Matrix: Soil Concentration/Units: ppm (mg/kg)

ANALYTE	SERIAL DILUTION 5/29/15 14:39 SR	SERIAL DILUTION 5/29/15 14:46 SDR	% Difference	POST SPIKE 5/29/15 15:02 SPR	POST SPIKE SA	% Recovery
Aluminum	33100	33100	0			
Antimony	ND	ND	NC	47.3	47.2	100
Arsenic	4.11	4.40	6.82	46.3	47.2	89.4
Barium	132	130.0	1.53			
Beryllium	1.20	1.24	3.28	44.8	47.2	92.4
Cadmium	ND	ND	NC	42.3	47.2	89.6
Calcium	1050	1080	2.82			
Chromium	21.3	22.6	5.92			
Cobalt	10.8	11.6	7.14			
Copper	24.4	24.3	0.411			
Iron	47600	52300	9.41			
Lead	7.87	7.84	0.382	61.8	47.2	114.0
Magnesium	2570	2790	8.21			
Manganese	234	249	6.21			
Nickel	12.0	11.9	0.837			
Potassium	849	917	7.70			
Selenium	3.23	3.34	3.35	43.9	47.2	86.2
Silver	ND	ND	NC	46.4	47.2	98.3
Sodium	238	233	2.12			
Thallium	ND	ND	NC	47.6	47.2	101
Vanadium	33.5	35.5	5.80			
Zinc	53.6	53.5	0.187			

SR = Sample Result
SDR = Sample Dilution Result
SPR = Sample Post Spike Result
SA = Spike Added

Control Limits: (+) or (-) 10% Difference or 80-120% Recovery

QC Sample1: E15-04337-003
QC Sample 1 for following samples:
03844-013; 04287-001; 04336-001; 04337-003,005
04337-009; 04346-001; 04353-010~011; 04367-001
04367-002~011

METALS INTERNAL STANDARD AREA SUMMARY
2015 PG265
May 29, 2015
Method: 6020A

	ISTD	Li-6 [2]		Ge-72 [1]		Ge-72 [2]		Rh-103 [2]		Tb-159 [2]		Bi-209 [2]		
002CALB.D	STD BLANK	560105		90127		432820		3071124		3682324		1888807		
		Area Count	% Rec	Area Count	% Rec	Area Count	% Rec	Area Count	% Rec	Area Count	% Rec	Area Count	% Rec	
	Lower Limit	392074	70	63089	70	302974	70	2149787	70	2577627	70	1322165	70	
	Upper Limit	672126	120	108152	120	519384	120	3685349	120	4418789	120	2266568	120	
003CALS.D	STD1	536810	96	88180	98	428724	99	3027891	99	3599562	98	1881168	100	
004CALS.D	STD2	530218	95	96689	107	427034	99	2983866	97	3607304	98	1878711	99	
005CALS.D	STD3	528276	94	89387	99	424769	98	2977158	97	3606140	98	1873099	99	
006CALS.D	STD4	533619	95	84200	93	427632	99	3024312	98	3682151	100	1907185	101	
007CALS.D	STD5	509905	91	89857	100	404646	93	2790479	91	3341476	91	1770749	94	
009_ICV.D	ICV	520598	93	91693	102	423218	98	3031181	99	3604558	98	1886093	100	
010LCCV.D	LLICV	557385	100	94573	105	426837	99	3061572	100	3668181	100	1882268	100	
011_ICB.D	ICB	585231	104	92294	102	454601	105	3190743	104	3834836	104	2024986	107	
016SMPL.D	E15-04337-003	580544	104	91608	102	432979	100	3070919	100	3641335	99	1899489	101	
017SMPL.D	E15-04337-003DUP	635369	113	104027	115	452222	104	3207680	104	3917353	106	2010748	106	
018SMPL.D	E15-04337-003SD	667437	119	105011	117	453280	105	2905408	95	3689843	100	1827284	97	
019SMPL.D	E15-04337-003MS	644867	115	96826	107	480811	111	3071583	100	3912128	106	1978250	105	
020_CCV.D	CCV	599486	107	96918	108	458127	106	3162087	103	3867474	105	1987841	105	
0216CCB.D	CCB	663756	119	98782	110	460375	106	2912797	95	3679790	100	1830228	97	
022SMPL.D	E15-04337-003PS	635463	112	103431	115	499302	115	3140239	102	4006643	109	1961704	104	
023SMPL.D	BLKS150528-01	636444	114	93063	103	467713	108	3035505	99	3783893	103	1904318	101	
024SMPL.D	LCSS150528-01	479016	86	91737	102	399278	92	2800240	91	3356653	91	1738798	92	
025SMPL.D	E15-04337-005	481574	86	91200	101	395813	91	2793857	91	3305637	90	1713904	91	
026SMPL.D	E15-03844-013	613146	109	104018	115	475059	110	3061045	100	3856652	105	1921512	102	
027SMPL.D	E15-04287-001	645957	115	101750	113	494198	114	3148162	103	3890061	106	1958844	104	
028SMPL.D	E15-04336-001	591714	106	95956	106	465783	108	2958005	96	3688363	100	1821582	96	
029SMPL.D	E15-04346-001	577486	103	100610	112	460940	106	2951726	96	3672714	100	1822985	97	
030SMPL.D	E15-04337-009	583484	104	103910	115	470090	109	2965055	97	3661551	99	1801616	95	
031SMPL.D	E15-04367-001	557754	100	107909	120	446418	103	2840952	93	3542655	96	1733459	92	
032_CCV.D	CCV	591927	106	102991	114	475124	110	3058362	100	3827609	104	1870482	99	
0336CCB.D	CCB	596869	107	100201	112	476801	110	3093659	101	3874368	105	1865461	99	

A in last column indicates the analysis has failed QC criteria
Sample Limits = 70-120% of reference Standard (CAL BLANK L1)
QC Sample Limits = 80-120% of reference Standard (CAL BLANK L1)

[1] = [He]; [2] = [No Gas]
Ge-72 [1] = Na,Mg,Al,Si,K,Ca,Ti,V,Cr,Mn,Fe,Co,Ni,Cu,Zn,As,Se
Li-6 [2] = Be,B; Ge-72 [2] = Cd; Rh-103 [2] = Mo,Ag,Sn; Tb-159 [2] = Sb,Ba

METALS INTERNAL STANDARD AREA SUMMARY
2015 PG265
May 29, 2015
Method: 6020A

	ISTD	Li-6 [2]		Ge-72 [1]		Ge-72 [2]		Rh-103 [2]		Tb-159 [2]		Bi-209 [2]		
002CALB.D	STD BLANK	560105		90127		432820		3071124		3682324		1888807		
		Area Count	% Rec	Area Count	% Rec	Area Count	% Rec	Area Count	% Rec	Area Count	% Rec	Area Count	% Rec	
	Lower Limit	392074	70	63089	70	302974	70	2149787	70	2577627	70	1322165	70	
	Upper Limit	672126	120	108152	120	519384	120	3685349	120	4418789	120	2266568	120	
034SMPL.D	E15-04367-002	601398	107	104440	115	456270	105	3151553	103	3756131	102	1864953	99	
035SMPL.D	E15-04367-003	607070	107	104695	116	498354	115	3265046	106	4028445	109	1972624	104	
036SMPL.D	E15-04367-004	618890	110	94227	105	495772	115	3097874	101	3770477	102	1852321	98	
037SMPL.D	E15-04367-005	609636	108	98585	109	421872	97	3242656	106	3907197	106	1904022	101	
038SMPL.D	E15-04367-006	651265	116	103026	114	506552	117	3196314	104	3889887	106	1896051	100	
039SMPL.D	E15-04367-007	650173	116	107927	120	505443	117	3186388	104	3966561	108	1906422	101	
040SMPL.D	E15-04367-008	560159	100	97669	108	440869	102	3084397	100	3574268	97	1820880	96	
041SMPL.D	E15-04367-009	543963	97	99407	110	426138	98	3026190	99	3474394	94	1747061	92	
042SMPL.D	E15-04367-010	531098	95	102181	113	437791	101	3082438	100	3693073	100	1834879	97	
043SMPL.D	E15-04367-011	558936	100	97180	108	458288	106	3288101	107	3868966	105	1911279	101	
044_CCV.D	CCV	599486	107	96918	108	458127	106	3162087	103	3867474	105	1987841	105	
0456CCB.D	CCB	663756	119	98782	110	460375	106	2912797	95	3679790	100	1830228	97	
039UNDF.d	ICSA	635463	112	103431	115	499302	115	3140239	102	4006643	109	1961704	104	
040UNDF.d	ICSAB	636444	114	93063	103	467713	108	3035505	99	3783893	103	1904318	101	
042UNDF.d	FINAL CCV	479016	86	91737	102	399278	92	2800240	91	3356653	91	1738798	92	
043UNDF.d	FINAL CCB	481574	86	91200	101	395813	91	2793857	91	3305637	90	1713904	91	
022UNDF.d	CCV	613146	109	104018	115	475059	110	3061045	100	3856652	105	1921512	102	
023UNDF.d	CCB	645957	115	101750	113	494198	114	3148162	103	3890061	106	1958844	104	
034UNDF.d	CCV	591714	106	95956	106	465783	108	2958005	96	3688363	100	1821582	96	
035UNDF.d	CCB	577486	103	100610	112	460940	106	2951726	96	3672714	100	1822985	97	
012SMPL.d	E15-04353-010	583484	104	103910	115	470090	109	2965055	97	3661551	99	1801616	95	
013SMPL.d	E15-04353-011	557754	100	107909	120	446418	103	2840952	93	3542655	96	1733459	92	
019SMPL.d	BLKS150528-02	591927	106	102991	114	475124	110	3058362	100	3827609	104	1870482	99	
020SMPL.d	LCSS150528-02	596869	107	100201	112	476801	110	3093659	101	3874368	105	1865461	99	
021SMPL.d	E15-04353-002	645957	115	101750	113	494198	114	3148162	103	3890061	106	1958844	104	
024SMPL.d	E15-04353-002DUP	591714	106	95956	106	465783	108	2958005	96	3688363	100	1821582	96	
025SMPL.d	E15-04353-002SD	577486	103	100610	112	460940	106	2951726	96	3672714	100	1822985	97	
026SMPL.d	E15-04353-002MS	583484	104	103910	115	470090	109	2965055	97	3661551	99	1801616	95	
027SMPL.d	E15-04353-002PS	557754	100	107909	120	446418	103	2840952	93	3542655	96	1733459	92	
028SMPL.d	E15-04353-001	591927	106	102991	114	475124	110	3058362	100	3827609	104	1870482	99	

A "n" in last column indicates the analysis has failed QC criteria
Sample Limits = 70-120% of reference Standard (CAL BLANK L1)
QC Sample Limits = 80-120% of reference Standard (CAL BLANK L1)

[1] = [He]; [2] = [No Gas]
Ge-72 [1] = Na,Mg,Al,Si,K,Ca,Ti,V,Cr,Mn,Fe,Co,Ni,Cu,Zn,As,Se
Li-6 [2] = Be,B; Ge-72 [2] = Cd; Rh-103 [2] = Mo,Ag,Sn; Tb-159 [2] = Sb,Ba

METALS INTERNAL STANDARD AREA SUMMARY
2015 PG265
May 29, 2015
Method: 6020A

	ISTD	Li-6 [2]		Ge-72 [1]		Ge-72 [2]		Rh-103 [2]		Tb-159 [2]		Bi-209 [2]		
002CALB.D	STD BLANK	406085		75922		353343		2179406		2266349		1097937		
		Area Count	% Rec	Area Count	% Rec	Area Count	% Rec	Area Count	% Rec	Area Count	% Rec	Area Count	% Rec	
	Lower Limit	284260	70	53145	70	247340	70	1525584	70	1586444	70	768556	70	
	Upper Limit	487302	120	91106	120	424012	120	2615287	120	2719619	120	1317524	120	
029SMPL.d	E15-04353-003	635463	112	103431	115	499302	115	3140239	102	4006643	109	1961704	104	
030SMPL.d	E15-04353-004	636444	114	93063	103	467713	108	3035505	99	3783893	103	1904318	101	
031SMPL.d	E15-04353-005	479016	86	91737	102	399278	92	2800240	91	3356653	91	1738798	92	
032SMPL.d	E15-04353-006	481574	86	91200	101	395813	91	2793857	91	3305637	90	1713904	91	
033SMPL.d	E15-04353-007	613146	109	104018	115	475059	110	3061045	100	3856652	105	1921512	102	
036SMPL.d	E15-04353-008	645957	115	101750	113	494198	114	3148162	103	3890061	106	1958844	104	
037SMPL.d	E15-04353-009	591714	106	95956	106	465783	108	2958005	96	3688363	100	1821582	96	

A* in last column indicates the analysis has failed QC criteria
Sample Limits = 70-120% of reference Standard (CAL BLANK L1)
QC Sample Limits = 80-120% of reference Standard (CAL BLANK L1)

[1] = [He]; [2] = [No Gas]
Ge-72 [1] = Na,Mg,Al,Si,K,Ca,Ti,V,Cr,Mn,Fe,Co,Ni,Cu,Zn,As,Se
Li-6 [2] = Be,B; Ge-72 [2] = Cd; Rh-103 [2] = Mo,Ag,Sn; Tb-159 [2] = Sb,Ba

E15-04336 0213

GENERAL ANALYTICAL CHEMISTRY

GENERAL ANALYTICAL CHEMISTRY QC SUMMARY

Integrated Analytical Labs
273 Franklin Road
Randolph, NJ 07869

Certified for NJDEP, NY(DOH)
NJ ID# 14751
NY ID# 11402

General Chemistry Quality Control

Cyanide, Total

Matrix: Soil
Unit: mg/Kg

Batch: AP013-0045
Method: 9012B

Date: 05/28/2015

	Sample ID	Result	TrueValue / SpikeAdded	RPD	RPD Limit	% Recovery	%Recovery Limit
BLK	BLKS150528	< 0.450	NA	NA	NA	NA	NA
LCS	ICV.007_07	0.259	0.25	NA	NA	104	85-115
SAMPLE	E15-04306-001	< 0.506	NA	NA	NA	NA	NA
DUP	E15-04306-001D	< 0.506	NA	NC	20	NA	NA
MS	E15-04306-001S	13.2	14.1	NA	NA	93.6	75-125
MSD	E15-04306-001SD	13.2	14.1	0	20	93.6	75-125

The above blank result applies to the follow samples:

E15-04306-001
E15-04306-002
E15-04285-003
E15-04285-007
E15-04285-008
E15-04285-009
E15-04285-010
E15-04285-011
E15-04337-003
E15-04271-001
E15-04271-002
E15-04271-003
E15-04271-004
E15-04287-001
E15-04336-001

NA - Not Applicable
ND - Not Detected
NC - Non calculable RPD due to value less than the detection limit

INTEGRATED ANALYTICAL LABORATORIES, LLC.

INITIAL & CONTINUING CALIBRATION VERIFICATION

Cyanide, Total

Batch: AP013-0045	Date & Time: 05/28/2015 17:54
Method: 9012B	Analyst: Andrew O'Brien

	True Value	Result (mg/Kg)	% REC
BLKS150528		< 0.450	

	True Value	Result (mg/L)	% REC
ICV.007_07	0.250	0.259	104
CCV.009_09	0.250	0.259	104
CCV.023_23	0.250	0.255	102
CCV.033_33	0.250	0.253	101

Integrated Analytical Labs
273 Franklin Road
Randolph, NJ 07869

Certified for NJDEP, NY(DOH)
NJ ID# 14751
NY ID# 11402

General Chemistry Quality Control

pH/Corrosivity

Matrix: Soil
Unit: SU

Batch: AP023-0120
Method: 9045D

Date: 05/29/2015

	Sample ID	Result	TrueValue / SpikeAdded	RPD	RPD Limit	% Recovery	%Recovery Limit
LCS	LCSS150529	7.03	7	NA	NA	100	90-110
SAMPLE	E15-04336-001	8.76	NA	NA	NA	NA	NA
DUP	E15-04336-001DUP	8.78	NA	0.228	20	NA	NA

The above blank result applies to the follow samples:

E15-04336-001
E15-04183-001
E15-04183-002
E15-04287-001

NA - Not Applicable
ND - Not Detected
NC - Non calculable RPD due to value less than the detection limit

INTEGRATED ANALYTICAL LABORATORIES, LLC.

INITIAL & CONTINUING CALIBRATION VERIFICATION

pH/Corrosivity

Batch: AP023-0120	Date & Time: 05/29/2015 10:28
Method: 9045D	Analyst: Deborah Szachara

	True Value	Result (mg/Kg)	% REC

	True Value	Result (mg/L)	% REC
CCV.17	7.00	7.01	100

Certified for NJDEP, NY(DOH)
NJ ID# 14751
NY ID# 11402

General Chemistry Quality Control

Hexavalent Chromium

Matrix: Soil
Unit: mg/Kg

Batch: AP011-0052
Method: 3060A/7196A

Date: 05/29/2015

	Sample ID	Result	TrueValue / SpikeAdded	RPD	RPD Limit	% Recovery	%Recovery Limit
ICV	ICV	0.486	0.5	NA	NA	97.2	90-110
ICB	ICB	< 0.004	NA	NA	NA	NA	NA
BLK	BLKS150529	< 0.167	NA	NA	NA	NA	NA
LCS	LCSS150529	36.7	40	NA	NA	91.8	80-120
SAMPLE	E15-04336-001	< 0.167	NA	NA	NA	NA	NA
DUP	E15-04336-001DUP	< 0.167	NA	NC	NC	NA	NA
MS	E15-04336-001MS	30.2	40.0	NA	NA	75.5	75-125
INS	E15-04336-001INS	763	965	NA	NA	79.1	75-125
PS	E15-04336-001PS	37.2	40.0	NA	NA	93.0	85-115

The above blank result applies to the follow samples:

E15-04336-001
E15-03499-006
E15-04337-009
E15-04183-001
E15-04183-002
E15-04287-001

NA - Not Applicable
ND - Not Detected
NC - Non calculable RPD due to value less than the detection limit

INTEGRATED ANALYTICAL LABORATORIES, LLC.

Hexavalent Chromium

Date Analyzed 05/29/2015

Method 3060A/7196A

5.0M Nitric Acid	RA	71-23/Fisher
Magnesium Chloride	RA	71-17/Alfa Aesar
Phosphate Buffer	WCCr6Buff/	03/25/2015
Lead Chromate	RA	43-19/Fluka
Digestion Solution	WCCr6Dig./	05/05/2015

Potassium Dichromate Stock (50mg/L)	WCCr6S/	12/29/2014
Potassium Dichromate Int. (5mg/L)	WCCr6SInt/	05/29/2015
Potassium Dichromate Second Source (50mg/L)	WCCr6S2/	12/29/2014
Potassium Dichromate Second Source Int.(5mg/L)	WCCr6S2Int/	05/29/2015

10% Sulfuric Acid	RA	72-14/Fisher
Diphenylcarbazide Sol.	WCCr6DPC/	05/05/2015

INTEGRATED ANALYTICAL LABORATORIES, LLC.

Hexavalent Chromium

Cal Batch ID: 150529S1 **Batch ID:** AP011-0052
Method: 3060A/7196A **Date & Time:** 05/29/2015 14:50
Matrix: Soil
Date & Time: 05/29/2015 14:50 ((abs.-blankabs.)-b)/m=mg/L
Analyst: Deborah Szachara ((mg/L)*0.1)/kg sample*(%TS/100)=Cr6 mg/Kg -dwb

m: 1.05044	RL (mg/Kg): 1.00
b: 0.0012	MDL (mg/Kg): 0.167
Wt. Cr (mg): 0.1	Spike Added (mg/Kg): 40.0
PbCrO4 (mg): 15	Spike Added (mg/Kg): 965

Data Loc	Sample ID	Color dlg.	3060A 7.0-8.0 pH adj.	7196A 1.5-2.5 pH adj.	Blank 1.5-2.5 pH adj.	Vol	DF	% Moist	unit	Abs.	Blank Abs.	Corr. Abs.	mg/L	Result (1)	Result (2)	MDL	RL	Q	Unit (2)
001	S0.000	Clear	7.5	2.1	-	100	1	100	ml	0.000	-	-	-	-	-	-	-	-	-
002	S0.025	Clear	7.1	2.2	-	100	1	100	ml	0.023	-	-	-	-	-	-	-	-	-
003	S0.050	Clear	7.3	2.1	-	100	1	100	ml	0.064	-	-	-	-	-	-	-	-	-
004	S0.100	Clear	7.5	2.5	-	100	1	100	ml	0.104	-	-	-	-	-	-	-	-	-
005	S0.200	Clear	7.4	2.1	-	100	1	100	ml	0.206	-	-	-	-	-	-	-	-	-
006	S0.500	Clear	7.3	2.3	-	100	1	100	ml	0.520	-	-	-	-	-	-	-	-	-
007	S0.750	Clear	7.3	2.0	-	100	1	100	ml	0.810	-	-	-	-	-	-	-	-	-
008	S1.000	Clear	7.2	2.0	-	100	1	100	ml	1.040	-	-	-	-	-	-	-	-	-
009	ICV	Clear	7.3	2.1	-	100	1	100	ml	0.512	0.000	0.512	0.486	0.486	0.486	0.004	0.025		Aqueous-mg/L
010	ICB	Clear	7.4	2.1	-	100	1	100	ml	0.000	0.000	0.000	-0.001	-0.001	ND	0.004	0.025		Aqueous-mg/L
011	CCV	Clear	7.1	2.3	-	100	1	100	ml	0.507	0.000	0.507	0.482	0.482	0.482	0.004	0.025		Aqueous-mg/L
012	CCB	Clear	7.3	2.1	-	100	1	100	ml	0.000	0.000	0.000	-0.001	-0.001	ND	0.004	0.025		Aqueous-mg/L
013	BLKS150529	Clear	7.0	2.2	-	2.5	1	0	g	0.000	0.000	0.000	-0.001	-0.046	ND	0.167	1.00		Soil-mg/Kg
014	LCSS150529	Clear	7.5	2.2	-	2.5	1	0	g	0.964	0.000	0.964	0.917	36.663	36.7	0.167	1.00		Soil-mg/Kg
015	RLSTD	Clear	7.4	2.3	-	2.5	1	0	g	0.022	0.000	0.022	0.020	0.792	0.792	0.167	1.00	J	Soil-mg/Kg
016	E15-04336-001	Clear	7.3	2.2	2.2	2.5	1	0	g	0.002	0.002	0.000	-0.001	-0.046	ND	0.167	1.00		Solid-mg/Kg
017	E15-04336-001DUP	Clear	7.3	2.4	2.4	2.5	1	0	g	0.001	0.001	0.000	-0.001	-0.046	ND	0.167	1.00		Solid-mg/Kg
018	E15-04336-001MS	Clear	7.3	2.3	2.3	2.5	1	0	g	0.793	0.000	0.793	0.754	30.151	30.2	0.167	1.00		Solid-mg/Kg
019	E15-04336-001INS	Yellow	7.5	2.2	2.2	2.5	50	0	g	0.402	0.000	0.402	0.382	763.109	763	8.35	50.0		Solid-mg/Kg
020	E15-04336-001PS	Clear	7.1	1.9	1.9	2.5	1	0	g	0.979	0.002	0.977	0.929	37.158	37.2	0.167	1.00		Soil-mg/Kg
021	E15-03499-006	Yellow	7.4	2.2	2.2	2.5	1	34.2	g	0.075	0.074	0.001	0.000	-0.012	ND	0.254	1.52		Soil-mg/Kg
022	E15-04337-009	Clear	7.2	2.1	2.1	2.5	1	15.0	g	0.006	0.006	0.000	-0.001	-0.054	ND	0.196	1.18		Soil-mg/Kg
023	CCV	Clear	7.2	2.3	-	100	1	100	ml	0.518	0.000	0.518	0.492	0.492	0.492	0.004	0.025		Aqueous-mg/L
024	CCB	Clear	7.3	2.2	-	100	1	100	ml	0.000	0.000	0.000	-0.001	-0.001	ND	0.004	0.025		Aqueous-mg/L
025	E15-04183-001	Clear	7.2	2.3	2.3	2.5	1	11.0	g	0.009	0.009	0.000	-0.001	-0.051	ND	0.188	1.12		Soil-mg/Kg
026	E15-04183-002	Clear	7.2	2.4	2.4	2.5	1	10.9	g	0.002	0.002	0.000	-0.001	-0.051	ND	0.187	1.12		Soil-mg/Kg
027	E15-04287-001	Clear	7.2	2.3	2.3	2.5	1	0	g	0.002	0.002	0.000	-0.001	-0.046	ND	0.167	1.00		Solid-mg/Kg

E15-04336 0222

INTEGRATED ANALYTICAL LABORATORIES, LLC.

Hexavalent Chromium

Cal Batch ID: 150529S1
Method: 3060A/7196A
Matrix: Soil
Date & Time: 05/29/2015 14:50
Analyst: Deborah Szachara

Batch ID: AP011-0052
Date & Time: 05/29/2015 14:50

((abs.-blankabs.)-b)/m=mg/L
((mg/L)*0.1)/kg sample*(%TS/100)=Cr6 mg/Kg -dwb

m:	1.05044	RL (mg/Kg):	1.00
b:	0.0012	MDL (mg/Kg):	0.167
Wt. Cr (mg):	0.1	Spike Added (mg/Kg):	40.0
PbCrO4 (mg):	15	Spike Added (mg/Kg):	965

Data Loc	Sample ID	Color dig.	3060A 7.0-8.0 pH adj.	7196A 1.5-2.5 pH adj.	Blank 1.5-2.5 pH adj.	Vol	DF	% Moist	unit	Abs.	Blank Abs.	Corr. Abs.	Result mg/L	Result (1)	Result (2)	MDL	RL	Q	Unit (2)
028	CCV	Clear	7.3	2.5	-	100	1	100	ml	0.513	0.000	0.513	0.487	0.487	0.487	0.004	0.025		Aqueous-mg/L
029	CCB	Clear	7.2	2.4	-	100	1	100	ml	0.000	0.000	0.000	-0.001	-0.001	ND	0.004	0.025		Aqueous-mg/L

E15-04336 0223

INTEGRATED ANALYTICAL LABORATORIES, LLC.

Calibration Log

Test:	**Hexavalent Chromium**	Analyst:	**Deborah Szachara**
Method:	**3060A/7196A**	Date:	**05/29/2015 14:50**
Matrix:	**Soil**	Cal. Batch:	**150529S1**

mg/L	Abs.
0.000	0.000
0.025	0.023
0.050	0.064
0.100	0.104
0.200	0.206
0.500	0.520
0.750	0.810
1.000	1.040

R^2=	**0.99965**
Slope=	**1.0504**
Intercept=	**0.0012**

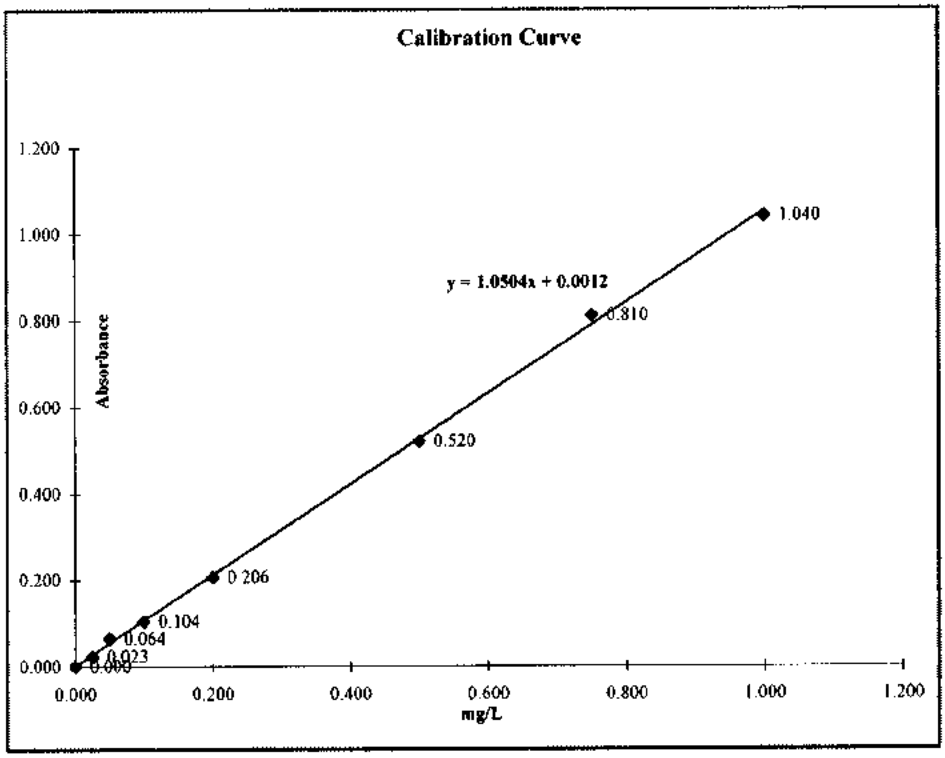
INTEGRATED ANALYTICAL LABORATORIES, LLC.

Hexavalent Chromium

Date:	Friday, 05/29/2015
Method:	3060A/7196A
Matrix:	Soil
Analyst:	Deborah Szachara

mg/L	Abs.
0.000	0.000
0.025	0.023
0.050	0.064
0.100	0.104
0.200	0.206
0.500	0.520
0.750	0.810
1.000	1.040

R^2=	0.99965
Slope=	1.0504
Intercept=	0.0012



Comments:

Cal. Batch ID: 150529S1

INTEGRATED ANALYTICAL LABORATORIES, LLC.

Digestion Log

Test:	**Cr-VI (Hexavalent Chromium)**	Analyst:	**Deborah Szachara**
Method:	**3060A/7196A**	Date:	**05/29/2015**
Matrix:	**Soil**	Batch:	**AP011-0052**

*alkaline digestion must be at least 60 min, and have a temperature of 90-95°C

No.	Sample ID	Date	Time Start	Time End*	Temp (°C)
1	BLKS150529	05/29/2015	07:30	08:30	92
2	LCSS150529	05/29/2015	07:30	08:30	92
3	RLSTD	05/29/2015	07:30	08:30	92
4	E15-04336-001	05/29/2015	07:30	08:30	92
5	E15-04336-001DUP	05/29/2015	07:30	08:30	92
6	E15-04336-001MS	05/29/2015	07:30	08:30	92
7	E15-04336-001INS	05/29/2015	07:30	08:30	92
8	E15-03499-006	05/29/2015	08:40	09:40	92
9	E15-04337-009	05/29/2015	08:40	09:40	92
10	E15-04183-001	05/29/2015	08:40	09:40	92
11	E15-04183-002	05/29/2015	08:40	09:40	92
12	E15-04287-001	05/29/2015	08:40	09:40	92
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					

INTEGRATED ANALYTICAL LABORATORIES, LLC.

INITIAL & CONTINUING CALIBRATION VERIFICATION

Hexavalent Chromium

Batch: AP011-0052	Date & Time: 05/29/2015 14:50
Method: 3060A/7196A	Analyst: Deborah Szachara

	True Value	Result (mg/Kg)	% REC
BLKS150529		< 0.167	

	True Value	Result (mg/L)	% REC
ICV.009	0.500	0.486	97.2
CCV.011	0.500	0.482	96.4
CCV.023	0.500	0.492	98.4
CCV.028	0.500	0.487	97.4

INTEGRATED ANALYTICAL LABORATORIES, LLC.

INITIAL & CONTINUING CALIBRATION BLANKS VERIFICATION

Hexavalent Chromium

Batch: AP011-0052	Date & Time: 05/29/2015 14:50
Method: 3060A/7196A	Analyst: Deborah Szachara

	Result (mg/Kg)
BLKS150529	< 0.167

	Result (mg/L)
ICB.010	< 0.004
CCB.012	< 0.004
CCB.024	< 0.004
CCB.029	< 0.004

INTEGRATED ANALYTICAL LABORATORIES, LLC.

MATRIX SPIKE RECOVERY DATA SHEET

Hexavalent Chromium

Batch: AP011-0052	Date & Time: 05/29/2015 14:50
Method: 3060A/7196A	Analyst: Deborah Szachara
Matrix: Soil	Unit: mg/Kg

	SAMPLE	AMOUNT	SPIKE		CONTROL
	RESULTS	ADDED	CONC.	% REC	LIMIT
E15-04336-001MS	< 0.167	40.0	30.2	75.5	75-125
E15-04336-001INS	< 0.167	965	763	79.1	75-125
E15-04336-001PS	< 0.167	40.0	37.2	93.0	85-115

INTEGRATED ANALYTICAL LABORATORIES, LLC.

LABORATORY CONTROL SAMPLE RECOVERY DATA SHEET

Hexavalent Chromium

Batch: AP011-0052	Date & Time: 05/29/2015 14:50
Method: 3060A/7196A	Analyst: Deborah Szachara
Matrix: Soil	Unit: mg/Kg

	SAMPLE	AMOUNT	SPIKE		CONTROL
	RESULTS	ADDED	CONC.	% REC	LIMIT
LCSS150529	< 0.167	40.0	36.7	91.8	80-120%

INTEGRATED ANALYTICAL LABORATORIES, LLC.

Characterization Log

Test:	**Cr-VI (Hexavalent Chromium)**	Analyst:	**Deborah Szachara**
Matrix:	**3060A/7196A**	Date:	**5/29/2015**
Method:	**Soil**	Batch ID:	**AP011-0052**

	Date/Time	Analyst
S2-pH-Eh	**5/29/2015 10:28**	**Deborah Szachara**
COD		

Sample ID	S2 odor (POS/NEG)	pH (SU)	Eh (mV)	pH, Eh temp-°C	COD (mg/Kg)	Characterization Reducing or Oxidizing
E15-04336-001	NEG	8.76	357	22		Oxidizing
E15-04336-001DUP	NEG	8.78	355	22		Oxidizing
E15-03499-006	NEG	7.95	359	22		Reducing
E15-04337-009	NEG	4.14	435	22		Reducing
E15-04183-001	NEG	7.98	310	22		Reducing
E15-04183-002	NEG	8.16	304	22		Reducing
E15-04287-001	NEG	8.35	396	22		Oxidizing

Characterization

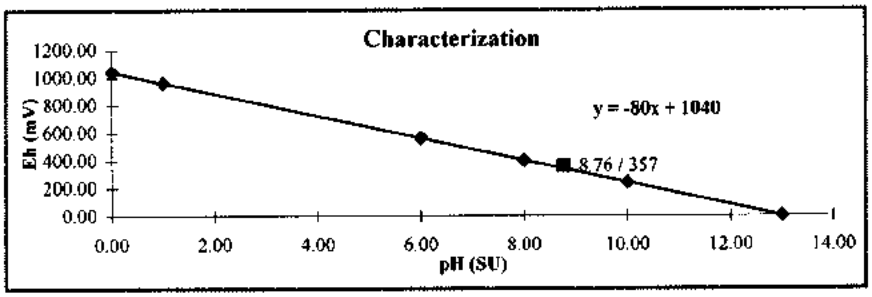
pH (SU)	Eh (mV)
0.00	1040.00
1.00	960.00
6.00	560.00
8.00	400.00
10.00	240.00
13.00	0.00

R2=	-1
Slope=	-80
Intercept=	1040

pH (SU) **8.76** Eh (mV) **357**

Oxidizing

Sample ID **E15-04336-001**



INTEGRATED ANALYTICAL LABORATORIES, LLC.

% Moisture Log

Sample ID	Matrix	Pan Wt.	Wet Wt.	Dry Wt.	% Solids	% Moist	Factor	Jar
E15-04336-001	Solid				100	0	1	

Certificate of Analysis

Alfa Aesar
A Johnson Matthey Company

rec'd 9/11/17

RA 50.7

Potassium dichromate, ACS, 99.0% min

Stock Number: 13450
Lot Number: F17U021

Analysis

Test	Limits	Results
Assay	99.0 % min	101.07 %
Insoluble matter	0.005 % max	0.003 %
Loss on drying	0.05 % max	0.032 %
Chloride	0.001 % max	< 0.001 %
Sulfate	0.005 % max	< 0.005 %
Iron	0.001 % max	0.0007 %
Calcium	0.003 % max	0.001 %
Sodium	0.02 % max	0.0025 %
Appearance		Orange-red crystals
Identification		Passes

Certified by:

Quality Control

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Email: info@alfa.com

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Fax: 82 2-3140-6002
Email: salekorea@alfa-asia.com

EMD™

Certificate of Analysis

LA 50-6

EMD Chemicals Inc.
480 S. Democrat Road
Gibbstown, NJ 08027
Phone 856-423-6300
Fax 856-423-4369

Name: Potassium Dichromate
GR ACS
Meets ACS Specifications

Formula: $K_2Cr_2O_7$

Item Number: PX1445-1, PX1445-11, PX1445-2, PX1445-20, PX1445-5, PX1445-7, PX1445-901

Formula Wt: 294.18

Lot Number: 47250933

Data Order No: 000410980

CHARACTERISTIC	REQUIREMENT		RESULTS	UNITS
	Min.	Max.		
Assay (Iodometric)	99.0		99.73	%
Insoluble matter		0.005	< 0.0005	%
Chloride (Cl)		0.001	0.0005	%
Sulfate (SO_4)		0.005	0.0008	%
Calcium (Ca)		0.003	0.0010	%
Iron (Fe)		0.001	< 0.0001	%
Sodium (Na)		0.02	0.0050	%
Loss on drying (105°C)		0.05	0.02	%

Charles M. Wilson
Quality Assurance Manager

Release Date 9/20/2007

EMD Chemicals Inc.
(Formerly EM Science, A Division of EM Industries, Inc.)
An Affiliate of Merck KGaA, Darmstadt, Germany

Potassium Dichromate Stock (50mg/L)- Dissolve 141.4 mg of dried potassium dichromate, K2Cr2O7, in dist. water in a 1L volumetric flask. Bring to volume with dist. water.

WCCr6S/ date prep

K2Cr2O7

RA Number	Supplier	Date Prep	Prep by
50-7	AlfaAesar	1/14/13	DS
50-7	AlfaAesar	7/09/13	DS
50-7	AlfaAesar	12/18/13	DS

K2Cr2O7

RA Number	Supplier	Date Prep	Prep by
50-7	AlfaAesar	3/20/14	DS
50-7	AlfaAesar	9/22/14	DS
50-7	AlfaAesar	12/29/14	DS

Potassium Dichromate Int. (5mg/L)- Dilute 10.00ml of potassium dichromate stock solution to 100ml in a 100ml volumetric flask.

WCCr6SInt./ date prep

Potassium Dichromate Second Source (50mg/L)- Dissolve 141.4 mg of dried potassium dichromate, K2Cr2O7, in dist. water in a 1L volumetric flask. Bring to volume with dist. water.

WCCr6S2/ date prep

K2Cr2O7

RA Number	Supplier	Date Prep	Prep by
50-6	EMD	1/14/13	DS
50-6	EMD	7/9/13	DS
50-6	EMD	12/18/13	DS

K2Cr2O7

RA Number	Supplier	Date Prep	Prep by
50-6	EMD	3/20/14	DS
50-6	EMD	9/20/14	DS
50-6	EMD	12/09/14	DS

Potassium Dichromate Second Source Int. (5mg/L)- Dilute 10.00ml of potassium dichromate second source stock solution to a 100ml in a 100ml volumetric flask.

WCCr6S2Int./ date prep

Standards-

Conc. mg/L	5mg/L Int. added to 100ml volumetric + 50ml digestion sol. (ml)	
0.000	0.0	(digestion solution added for soil analysis only)
0.025	0.5	
0.050	1.0	
0.100	2.0	
0.200	4.0	
0.500	10.0	Bring standards to volume with dist. water.
0.750	15.0	
1.00	20.0	

2nd Source Check

Conc. mg/L	2nd, 5mg/L Int. added to 100ml volumetric + 50ml digestion sol. (ml)	
0.50	10.0	(digestion solution added for soil analysis only)
		Bring standards to volume with dist. water.

Spike

Conc. mg/L	5mg/L Int. added to 100ml volumetric	
0.50	10.0	
		Bring spike to volume with sample .

- **Sulfuric Acid-** Add 100ml of conc. H2SO4 to 500ml dist. water. Bring to 1000ml with dist. water

RA No. / date prep

Diphenylcarbazide Solution- Dissolve 250mg of 1,5 diphenylcarbazide in 50ml acetone. Store in a brown bottle. Discard when the solution becomes discolored.

WCCr6DPC/ date prep

Acetone		1,5 DPC			
RA Number	Supplier	RA Number	Supplier	Date Prep	Prep by
71-18	Macron	64-19	AlfaAesar	3/6/15	DS
71-18	Macron	64-19	AlfaAesar	3/20/15	DS
71-18	Macron	64-19	AlfaAesar	4/2/15	DS
71-18	Macron	64-19	AlfaAesar	5/05/15	DS

5.0M HNO3- Add 320ml of conc HNO3 to 500ml dist. water. Bring to a 1000ml with dist. water.

RA No./date prep.

0.5M K2HPO4/0.5M KH2PO4 Buffer 7- Dissolve 87.09g of K2HPO4 and 68.04g KH2PO4 into 700ml of dist. water. Transfer to a 1L volumetric flask and bring to volume with dist. water

WCCr6Buff/ date prep

K2HPO4			KH2PO4			
RA Number	Supplier	Date Prep	RA Number	Supplier	Date Prep	Prep by

Digestion Solution- Dissolve 20.0 +/- 0.05g NAOH and 30.0 +/- 0.05g Na2CO3 in dist. water in a 1L volumetric flask. Bring to volume with dist. water. The pH of the digestion solution must be checked before using. The pH must be 11.5 or greater, if not, discard. Prepare fresh monthly.

WCCr6Dig./ date prep

NaOH		Na2CO3			
RA Number	Supplier	RA Number	Supplier	pH	DATE/ INIT
65-10	Fisher	71-7	Fisher	12.7	7/21/14 DS
65-10	Fisher	71-7	Fisher	12.8	8/21/14 DS
65-10	Fisher	71-7	Fisher	12.7	9/22/14 DS
65-10	Fisher	71-7	Fisher	12.8	10/22/14 DS
65-10	Fisher	71-7	Fisher	12.7	11/21/14 DS
65-10	Fisher	71-7	Fisher	12.6	12/08/14 DS
65-10	Fisher	71-7	Fisher	12.8	1/08/15 DS
65-10	Fisher	71-7	Fisher	12.9	02/04/15 DS
65-10	Fisher	71-7	Fisher	12.8	3/6/15 DS
75-14	Fisher	71-7	Fisher	12.7	3/20/15 DS
75-14	Fisher	71-7	Fisher	12.8	4/24/15 DS
75-14	Fisher	71-7	Fisher	12.6	5/5/15

5.0M HNO3- Add 320ml of conc HNO3 to 500ml dist. water. Bring to a 1000ml with dist. water.

RA No./date prep.

0.5M K2HPO4/0.5M KH2PO4 Buffer 7- Dissolve 87.09g of K2HPO4 and 68.04g KH2PO4 into 700ml of dist. water. Transfer to a 1L volumetric flask and bring to volume with dist. water

WCCr6Buff/ date prep

K2HPO4			KH2PO4			
RA Number	Supplier	Date Prep	RA Number	Supplier	Date Prep	Prep by
B40892	Mall. Kradt	2/2/11	47-24	Mall. Kradt	2/9/11	DS
K03W024	Alfa Aesar	1/19/12	49-22	Mall. Kradt	1/9/12	
K03W024	Alfa Aesar	1/19/13	49-22	Mall. Kradt	1/19/13	
K03W024	Alfa Aesar	01/07/14	53-16	Mallinckrodt	01/07/14	DS
K03W024	Alfa Aesar	09/22/14	53-16	mallinckrodt	9/22/14	DS
K03W024	Alfa Aesar	10/22/14	53-16		10/22/14	DS 11/4/14
RA58-14 K03W024	Alfa Aesar	3/25/15	53-16	Mallinckrodt	3/25/15	DS

Digestion Solution- Dissolve 20.0 +/- 0.05g NAOH and 30.0 +/- 0.05g Na2CO3 in dist. water in a 1L volumetric flask. Bring to volume with dist. water. The pH of the digestion solution must be checked before using. The pH must be 11.5 or greater, if not, discard. Prepare fresh monthly.

WCCr6Dig./ date prep

NaOH		Na2CO3			
RA Number	Supplier	RA Number	Supplier	pH	DATE/ INIT
RA53-3	Baker	RA53-6	Alfa Aesar	12.5	8/11/11
RA53-3	Baker	RA53-6	Alfa Aesar	13.1	9/12/11
RA53-3	Baker	RA53-6	Alfa Aesar	12.9	10/17/11
RA53-3	Baker	RA55-23	Alfa Aesar	12.4	11/3/11
RA53-3	Baker	RA55-23	Alfa Aesar	12.8	11/10/11
RA53-3	Baker	RA55-23	Alfa Aesar	12.5	12/3/11
RA53-3	Baker	RA55-23	Alfa Aesar	12.8	01/05/12
RA53-3	Baker	RA55-23	Alfa Aesar	12.7	1/23/12
RA53-3	Baker	RA55-23	Alfa Aesar	12.9	3/1/12
RA53-3	Baker	RA55-23	Alfa Aesar	13.0	3/13/12
RA53-3	Baker	RA55-23	Alfa Aesar	12.8	4/3/12
RA53-3	Baker	RA55-23	Alfa Aesar	12.9	5/1/12
RA53-3	Baker	RA55-23	Alfa Aesar	12.6	5/8/12
RA53-3	Baker	RA55-23	Alfa Aesar	12.5	6/12/12
RA53-3	Baker	RA55-23	Alfa Aesar	12.6	7/11/12

Potassium Dichromate Spiking Solution (1000mg/L)- Dissolve 2.829g of dried potassium dichromate, K2Cr2O7, in dist. water in a 1L volumetric flask. Bring to volume with dist. water.

1ml = 1mg

WCCr6S/ date prep

K2Cr2O7

RA Number	Supplier	Date Prep	Prep by
50-6	EMD	8/23/11	B

K2Cr2O7

RA Number	Supplier	Date Prep	Prep by

SAMPLE TRACKING

Integrated Analytical Labs
273 Franklin Road
Randolph, NJ 07869

Chain of Custody Record

Contact Us: 973-361-4252
Fax: 973-989-5288
Web: www.ialonline.com

Customer Information

Company: S&S
Address:
Telephone #: 973-239-6001
Fax #:
Project Manager: Dr. Arhan
EMAIL Address:
Project Name: Pompton Lakes
Project Location (State): NJ
Bottle Order #:
☑ "Report to"/"Invoice To" same as above
Sampled by: SOR

COMPLETED BY IAL:
___ Field Sampling ___ Equipment Rental

Reporting Information

REPORT TO:
Address:
Attn:
FAX #
INVOICE TO:
Address:
Attn:
PO # 15-070
Quote #

Sample Matrix

DW - Drinking Water
WW - Waste Water
GW - Groundwater
SW - Surface Water
LIQ - Liquid (Specify)
OI - Oil
S - Soil
SOL - Solid
SL - Sludge
W - Wipe
B - Biphasic

**Rush TAT Charge

24 hr - 100%...
48 hr - 75%....
72 hr - 50%....
96 hr - 35%....
5 day - 25%....
6-9 day - 10%

Deliverables

NJ, CT, PA
☐ Results Only
☑ Reduced
☐ Regulatory/ Full*

NY
☐ ASP Category A
☐ ASP Category B*

EDDs

☐ NJ SRP
☐ NYSDEC EQuIS
☐ lab approved custom EDD
☐ NO EDD REQ'D

Concentrations Expected:

Low Med High

These samples have been previously analyzed by IAL

☐ YES ☐ NO

Turn-Around Time (TAT)

Standard (10 business days) Verbal
Rush/date needed (only if pre-approved)**
Hard Copy: Std 3 week
Other - call for price

Regulatory Requirement

New Jersey	New York
☐ GWQS	☐ AWQS (TOGS Table 1)
☒ IGW	☐ GWEL (TOGS Table 5)
☒ SRS	☐ Part 375-6.8(a) - Unrestricted
☐ Ecological	☐ Part 375-6.8(b) - Restricted
☐ DW	☐ CP-51 Table 2 or 3 (selection required)
☐ SPLP	OTHER Reg. Req. (specify)

Petroleum Hydrocarbons - Selection is REQUIRED

☐ NJ EPH-DRO - Category 1
☑ NJ EPH-C40 - Category 2
☐ NJ EPH-Fractionated - Cat 2
TAT for PHC (if other than 2 weeks):
☐ DRO-8015

ANALYTICAL PARAMETERS (please note if contingent)

Client ID	Depth (ft only)	Sampling Date	Sampling Time	Matrix	# containers	IAL #	TAL/TCL + 30 *	EPH	pH	Cr+6
15-070		5/26/15	12:00	SOL	5	1	✓	✓	✓	✓
							C#	14107,	50561,	50579

Known Hazard: YES / NO
Describe:

Preservative Code:
1 = None
2 = HCl
3 = HNO3
4 = MeOH
5 = NaOH
6 = H2SO4
7 = Other

Container Code:
A = Amber Glass
B = Plastic
C = Vial
D = Glass
E = EnCore
T = Terracore

Preservative (use code): 1,4,7 | 1 | 1 | 1
Container Type (use code):

Sample Specific Notes:

Special Instructions/QC Requirements & Comments:
* including SRS Parameters

FOR LAB USE ONLY
SDG #: ATT6
Cooler Temp: 4 °C

Carrier (check one :
☒ IAL Courier
☐ Client Courier
☐ FedEx/UPS***
***Tracking #:

Relinquished by (Signature and Company)	Date	Time	Received by (Signature and Company)	Date	Time
[signature]	5/27/15	9:40	[signature]	5/27/15	9:40
[signature]	5/27/15	13:39	[signature]	5/27/15	13:39

Please print legibly and fill out completely. Samples cannot be processed and the turnaround time (TAT) will not start until any ambiguities have been resolved. TAT starts the following day if samples rec'd at lab > 5PM. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY IAL'S TERMS & CONDITIONS (found on rear of pink copy).

IAL Rev 2/2014

LAB COPIES - WHITE & YELLOW; CLIENT COPY - PINK

Certification IDs: TNI (TNI01284); CT (PH-0699); NJ (14751); NY (11402); PA (68-00773).

PAGE: 1 of 1

PROJECT INFORMATION

E15-04336: POMPTON LAKES

To: Dr. Yilmaz Arhan
S & S Environmental
Fax: 1(973) 239-8380
EMail: Alig@sorlabs.com; yilmaza@sorlab

Report To

S & S Environmental
98 Sand Park Road
Cedar Grove, NJ 07009
Attn: Dr. Yilmaz Arhan

Bill To

S & S Environmental
98 Sand Park Road
Cedar Grove, NJ 07009
Attn: Dr. Yilmaz Arhan

Report Format	P.O. #	Received At Lab	TPHC Due	Verbal Due	Hardcopy Due
Reduced	15-070	May 27, 2015 @ 13:39	NA	Jun 10, 2015	Jun 17, 2015 *

* Any ***Conditional or Hold*** status will delay final hardcopy report sent date.

Diskette Req. Not Required

**** QC Requirement (must meet):** NJ IGW

Lab ID	Client Sample ID	Depth	Sampling Time	Matrix	Unit	Field pH/Temp
04336-001	15-070	NA	05/26/15@12:00	Solid	mg/Kg (ppm)	

Sample #	Test	Status	QA Method	TAT	Holding Time Expires
001	TCL+SRS VO + 15	Analyze	8260C	STD/2 WKS	6/9/2015
	TCL+SRS BNA + 15	Analyze	8270D	STD/2 WKS	6/9/2015
	TCL+SRS Pesticides	Analyze	8081B	STD/2 WKS	6/9/2015
	TCL+SRS PCB	Analyze	8082A	STD/2 WKS	6/9/2015
	NJ-EPH (C40) Cat 2	Analyze	Method 10.08 Rev 3	STD/2 WKS	6/9/2015
	NJ-EPH (C40-Fractionated) Cat 2	**Hold**	Method 10.08 Rev 3	STD/2 WKS	6/9/2015
	TAL Metals	Analyze	6020A/7471B	STD/2 WKS	6/23/2015
	Cyanide, Total	Analyze	9012B	STD/2 WKS	6/9/2015
	pH/Corrosivity	Analyze	9045D	STD/2 WKS	6/23/2015
	Cr-VI (Hexavalent Chromium)	Analyze	3060A/7196A	STD/2 WKS	6/25/2015

273 Franklin Road
Randolph, NJ 07869
Phone: 973 361 4252
Fax: 973 989 5288

INTEGRATED ANALYTICAL LABORATORIES, LLC

SAMPLE RECEIPT VERIFICATION

CASE NO: **E 15** **04336** CLIENT: S + S Pompton Lakes

COOLER TEMPERATURE: 2° - 6°C: ✓ (See Chain of Custody)

COC: (COMPLETE) / INCOMPLETE

Comments

KEY
✓ = YES/NA
✗ = NO

VOA received: ☐ Encore ☐ IGW - Methanol
(check one) ☑ ~~Terra~~ Core ☐ No Preservative

✓	Bottles Intact
✓	no-Missing Bottles
✓	no-Extra Bottles
✓	Sufficient Sample Volume
✓	no-headspace/bubbles in VOs
✓	Labels intact/correct
✓	pH Check (exclude VOs)[1]
✓	Correct bottles/preservative
✓	Sufficient Holding/Prep Time[1]
☐	Multiphasic Sample
☐	Sample to be Subcontracted
✓	**Chain of Custody is Clear**

[1] All samples with "Analyze Immediately" holding times will be analyzed by this laboratory past the holding time. This includes but is not limited to the following tests: pH, Temperature, Free Residual Chlorine, Total Residual Chlorine, Dissolved Oxygen, Sulfite.

ADDITIONAL COMMENTS:

SAMPLE(S) VERIFIED BY: INITIAL [ ] DATE 5/17/11

CORRECTIVE ACTION REQUIRED: **YES** ☐ (SEE BELOW) **NO** ☑

If COC is **NOT** clear, ***STOP*** until you get client to authorize/clarify work.

CLIENT NOTIFIED: YES ☐ Date/ Time: _____ NO ☐

PROJECT CONTACT:

SUBCONTRACTED LAB:

DATE SHIPPED:

ADDITIONAL COMMENTS:

VERIFIED/TAKEN BY: INITIAL UMS DATE 5/17/11

04336 0244

REV 03/2013

Laboratory Custody Chronicle

IAL Case No.

E15-04336

Client S & S Environmental

Project POMPTON LAKES

Received On 5/27/2015@13:39

Department: Volatiles			***Prep. Date***	***Analyst***	***Analysis Date***	***Analyst***
TCL+SRS VO + 15	04336-001	Solid	n/a	n/a	5/28/15	Xing
Department: Semivolatiles			***Prep. Date***	***Analyst***	***Analysis Date***	***Analyst***
TCL+SRS BNA + 15	-001	Solid	5/27/15	Kou-Liang	5/28/15	Eleanor
Department: GC			***Prep. Date***	***Analyst***	***Analysis Date***	***Analyst***
NJ-EPH (C40) Cat 2	-001	Solid	5/27/15	Archimede	6/ 1/15	Jolanta
TCL+SRS PCB	-001	Solid	5/27/15	Archimede	5/28/15	Justyna
TCL+SRS Pesticides	-001	Solid	5/27/15	Archimede	5/28/15	Iwona
Department: Metals			***Prep. Date***	***Analyst***	***Analysis Date***	***Analyst***
TAL Metals	-001	Solid	5/28/15	Frank	5/29/15	En
Department: Wet Chemistry			***Prep. Date***	***Analyst***	***Analysis Date***	***Analyst***
Cr-VI (Hexavalent Chromium)	-001	Solid	n/a	n/a	5/29/15	Debbie
Cyanide, Total	-001	Solid	n/a	n/a	5/28/15	Andrew
pH/Corrosivity	-001	Solid	n/a	n/a	5/29/15	Debbie

Integrated Analytical Labs ~ 273 Franklin Road, Randolph, NJ 07869 ~ (973) 361-4252 ~ Fax (973) 989-5288

APPENDIX C

DELIVERY TICKETS FOR BACKFILL MATERIAL

ORDER NO: 127

42561584

CUSTOMER CODE: 86791 ENTACT, LLC
PROJECT CODE: Q131427 PERTH AMBOY – CHEVRON
PURCHASE ORDER: CVX288G
CONTRACT NO:

TRUCK: 1097 HAULER: 103217 MURATORE LANDSCAPE &
DELIVERY METHOD: 1 Delivery ZONE CODE: 11030

ITEM CODE 1018001
DESCRIPTION DGA

DELIVERY ADDRESS:
730 – 8AM PERTH AMBOY, BUCKEYE 1200 STATE ST

INSTRUCTIONS:
INSIDE THE PLANT OFF MAURER RD 724 – 771 – 8231

ON JOB TIME

OFF JOB TIME

GROSS	79,020lb	39.51UT
TARE	27,720lb	13.86UT
NET	51,300lb	25.65UT

# OF LOADS	US TONS TODAY	METRIC TONS TODAY
1	25.65	23.27

DRIVER SIGNATURE

CUSTOMER SIGNATURE

TICKET NO:42561584 DATE:10/23/15 TIME:05:57

SHIPPING PLANT:425 POMPTON LAKES QUARRY SOURCE:8 – 57R
SCALE NO:2 WM:Joe Pipolo

TILCON NEW YORK, INC. ISSUES THIS RECEIPT SOLELY FOR THE PURPOSE OF ESTABLISHING WEIGHT. OPERATION OF THIS VEHICLE IN EXCESS OF ALLOWABLE LEGAL PERMITS MAY RESULT IN DELAY OF THE VEHICLE AND/OR ARREST OF ITS OPERATOR. WE ARE NOT RESPONSIBLE FOR DAMAGE WHEN DELIVERY IS ORDERED OFF PUBLIC ROADS. ANY DAMAGE WILL BE CHARGED TO THE CUSTOMER

ORDER NO: 127

42561654

CUSTOMER CODE: 86791 ENTACT, LLC
PROJECT CODE: Q131427 PERTH AMBOY – CHEVRON
PURCHASE ORDER: CVX288G
CONTRACT NO:

TRUCK: 1097 HAULER: 103217 MURATORE LANDSCAPE &
DELIVERY METHOD: 1 Delivery ZONE CODE: 11030

ITEM CODE 1018001
DESCRIPTION DGA

DELIVERY ADDRESS:
730 – 8AM PERTH AMBOY, BUCKEYE 1200 STATE ST

INSTRUCTIONS:
INSIDE THE PLANT OFF MAURER RD 724 – 771 – 8231

ON JOB TIME

OFF JOB TIME

GROSS	77,840lb	38.92UT
TARE	27,120lb	13.56UT
NET	50,720lb	25.36UT

# OF LOADS	US TONS TODAY	METRIC TONS TODAY
2	51.01	46.28

DRIVER SIGNATURE

CUSTOMER SIGNATURE

TICKET NO:42561654 DATE:10/23/15 TIME:09:59

SHIPPING PLANT:425 POMPTON LAKES QUARRY SOURCE:8 – 57R
SCALE NO:2 WM:Joe Pipolo

TILCON NEW YORK, INC. ISSUES THIS RECEIPT SOLELY FOR THE PURPOSE OF ESTABLISHING WEIGHT. OPERATION OF THIS VEHICLE IN EXCESS OF ALLOWABLE LEGAL PERMITS MAY RESULT IN DELAY OF THE VEHICLE AND/OR ARREST OF ITS OPERATOR. WE ARE NOT RESPONSIBLE FOR DAMAGE WHEN DELIVERY IS ORDERED OFF PUBLIC ROADS. ANY DAMAGE WILL BE CHARGED TO THE CUSTOMER

ORDER NO: 127

42561728

CUSTOMER CODE: 86791 ENTACT, LLC
PROJECT CODE: Q131427 PERTH AMBOY – CHEVRON
PURCHASE ORDER: CVX288G
CONTRACT NO:

TRUCK: 1097 HAULER: 103217 MURATORE LANDSCAPE &
DELIVERY METHOD: 1 Delivery ZONE CODE: 11030

ITEM CODE 1018001
DESCRIPTION DGA

DELIVERY ADDRESS:
730 – 8AM PERTH AMBOY, BUCKEYE 1200 STATE ST

INSTRUCTIONS:
INSIDE THE PLANT OFF MAURER RD 724 – 771 – 8231

ON JOB TIME

OFF JOB TIME

GROSS	79,960lb	39.98UT
TARE	27,120lb	13.56UT
NET	52,840lb	26.42UT

# OF LOADS	US TONS TODAY	METRIC TONS TODAY
4	103.87	94.23

DRIVER SIGNATURE

CUSTOMER SIGNATURE

TICKET NO:42561728 DATE:10/23/15 TIME:12:44

SHIPPING PLANT:425 POMPTON LAKES QUARRY SOURCE:8 – 57R
SCALE NO:2 WM:Joe Pipolo

TILCON NEW YORK, INC. ISSUES THIS RECEIPT SOLELY FOR THE PURPOSE OF ESTABLISHING WEIGHT. OPERATION OF THIS VEHICLE IN EXCESS OF ALLOWABLE LEGAL PERMITS MAY RESULT IN DELAY OF THE VEHICLE AND/OR ARREST OF ITS OPERATOR. WE ARE NOT RESPONSIBLE FOR DAMAGE WHEN DELIVERY IS MADE OFF PUBLIC ROADS. ANY DAMAGE WILL BE CHARGED TO THE CUSTOMER

ORDER NO: 127

42561683

CUSTOMER CODE: 86791 ENTACT, LLC
PROJECT CODE: Q131427 PERTH AMBOY – CHEVRON
PURCHASE ORDER: CVX288G
CONTRACT NO:

TRUCK: 1195 HAULER: 200919 M AND I TRANSPORTATI
DELIVERY METHOD: 1 Delivery ZONE CODE: 11030

ITEM CODE 1018001
DESCRIPTION DGA

DELIVERY ADDRESS:
730 – 8AM PERTH AMBOY, BUCKEYE 1200 STATE ST

INSTRUCTIONS:
INSIDE THE PLANT OFF MAURER RD 724 – 771 – 8231

ON JOB TIME

OFF JOB TIME

GROSS	77,920lb	38.96UT
TARE	25,040lb	12.52UT
NET	52,880lb	26.44UT

# OF LOADS	US TONS TODAY	METRIC TONS TODAY
3	77.45	70.26

DRIVER SIGNATURE

CUSTOMER SIGNATURE

TICKET NO:42561683 DATE:10/23/15 TIME:10:53

SHIPPING PLANT:425 POMPTON LAKES QUARRY SOURCE:8 – 57R
SCALE NO:2 WM:Joe Pipolo

TILCON NEW YORK, INC. ISSUES THIS RECEIPT SOLELY FOR THE PURPOSE OF ESTABLISHING WEIGHT. OPERATION OF THIS VEHICLE IN EXCESS OF ALLOWABLE LEGAL PERMITS MAY RESULT IN DELAY OF THE VEHICLE AND/OR ARREST OF ITS OPERATOR. WE ARE NOT RESPONSIBLE FOR DAMAGE WHEN DELIVERY IS MADE OFF PUBLIC ROADS. ANY DAMAGE WILL BE CHARGED TO THE CUSTOMER

ORDER NO: 127

42561732

CUSTOMER CODE: 86791 ENTACT, LLC
PROJECT CODE: Q131427 PERTH AMBOY – CHEVRON
PURCHASE ORDER: CVX288G
CONTRACT NO:

TRUCK: 1096 HAULER: 103217 MURATORE LANDSCAPE &
DELIVERY METHOD: 1 Delivery ZONE CODE: 11030

ITEM CODE 1018001
DESCRIPTION DGA

DELIVERY ADDRESS:
1094/730 – 8AM PERTH AMBOY, BUCKEYE 1200 STATE ST

INSTRUCTIONS:
INSIDE THE PLANT OFF MAURER RD 724 – 771 – 8231

ON JOB TIME

OFF JOB TIME

GROSS	77,660lb	38.83UT
TARE	27,760lb	13.88UT
NET	49,900lb	24.95UT

# OF LOADS	US TONS TODAY	METRIC TONS TODAY
5	128.82	116.87

DRIVER SIGNATURE

CUSTOMER SIGNATURE

TICKET NO:42561732 DATE:10/23/15 TIME:13:11

SHIPPING PLANT:425 POMPTON LAKES QUARRY SOURCE:8 – 57R
SCALE NO:2 WM:Joe Pipolo

ORDER NO: 127

42561745

CUSTOMER CODE: 86791 ENTACT, LLC
PROJECT CODE: Q131427 PERTH AMBOY – CHEVRON
PURCHASE ORDER: CVX288G
CONTRACT NO:

TRUCK: 1094 HAULER: 103217 MURATORE LANDSCAPE &
DELIVERY METHOD: 1 Delivery ZONE CODE: 11030

ITEM CODE 1018001
DESCRIPTION DGA

DELIVERY ADDRESS:
1094/730 – 8AM PERTH AMBOY, BUCKEYE 1200 STATE ST

INSTRUCTIONS:
INSIDE THE PLANT OFF MAURER RD 724 – 771 – 8231

ON JOB TIME

OFF JOB TIME

GROSS	78,940lb	39.47UT
TARE	27,020lb	13.51UT
NET	51,920lb	25.96UT

# OF LOADS	US TONS TODAY	METRIC TONS TODAY
6	154.78	140.42

DRIVER SIGNATURE

CUSTOMER SIGNATURE

TICKET NO:42561745 DATE:10/23/15 TIME:14:00

SHIPPING PLANT:425 POMPTON LAKES QUARRY SOURCE:8 – 57R
SCALE NO:2 WM:Joe Pipolo